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BRIEF RETROSPECT
OF THE
EIGHTEENTH CENTURY.

PART THE FIRST;
IN THREE VOLUMES:



CONTAINING
A SKETCH
OF THE
REVOLUTIONS AND IMPROVEMENTS
IN
SCIENCE, ARTS, AND LITERATURE
DURING THAT PERIOD.

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BRIEF RETROSPECT
OF THE
EIGHTEENTH CENTURY.

SECTION V.

MATERIA MEDICA.

THE knowledge of the nomenclature, the methodical arrangement, and especially of the virtues of those substances which are employed either for nutriment or the cure of diseases, must be considered as forming a very important branch of medicine. Accordingly it has received much of the attention of physicians in all ages. But in no period of equal length have inquiries on this subject been pursued with so much accuracy and success, or the discoveries and improvements been so numerous, as during the century under review. Many new articles, in this period, have been added to the former catalogues; the properties of articles formerly known and employed have become better understood than before; the application of old remedies

greatly extended; and the whole subject made to wear a more scientific aspect.

From the account which has been already given of the state of the other branches of medicine, at the close of the seventeenth century, the reader will readily perceive that *materia medica*, so closely connected with them in its principles and application, must have been, at the same period, in a corresponding situation; perhaps it may even be said to have been less cultivated at that time than any other branch of medical science. But soon after the commencement of the eighteenth century the views of medical philosophers began to be much more correct and enlarged on this, as well as many other subjects belonging to the healing art. About that time the *cardinal qualities*, and other jargon of the Galenists; the *distilled waters, essences, quintessences*, and *extracts*, of the chemists; and many of the wild opinions respecting the application and efficacy of remedies, which resulted from mathematical and mechanical doctrines, began to decline; while new light, from various quarters, directed to more rational methods of experimenting and philosophising on the subject.

The improvements which were made in the science of *Botany*, in the course of the last age, proved the source of many important additions to the *materia medica*. New plants of great medicinal value were brought from every part of the globe. Vegetables were examined, and their properties ascertained by means of more numerous, patient, and enlightened experiments than preceding naturalists had attempted. The service rendered particularly to

this branch of the *materia medica* by Chomel and Geoffroy, of France; by Vogel, of Germany; by Linnæus, and his pupil Bergius, of Sweden; and by Alston, Withering, Woodville, and others, of Great Britain, are generally known. All these writers have treated of plants with a special reference to their medical uses, and the greater number of them have delivered formal systems. But beside what was effected by their inquiries, our knowledge of the subject has perhaps been still more increased by many of the other illustrious botanists mentioned in the preceding chapter. For while the latter have laboured to distinguish plants from one another, and to present them in a convenient method, few of them have failed to pay some attention to their medicinal virtues, and in many instances to make very interesting experiments of their effects on the human body.

The improvements in *Mineralogy*, during the period under review, have also furnished many new articles, and extended our knowledge of others in the *materia medica*. The eminent services rendered to medicine in this way, by Scheele, Bergman, Klaproth, Vauquelin, and a large number of other distinguished mineralogists, are so generally known, that it is unnecessary to enlarge on the subject.

While the progress of natural history has contributed greatly to the enlargement and correction of the *materia medica*, the discoveries and improvements in *Chemistry* have served still more eminently to promote the same end. When the employment of chemical remedies first became an object of much attention, in the hands of Paracelsus and his follow-

ers, it was attended with so much error, and embraced so many visionary and absurd opinions, as rather to corrupt and degrade medical science, than illustrate its principles, or guide their application. And, indeed, till the close of the seventeenth century, the doctrines of the chemist, when applied to medicine, served little other purpose than to amuse and mislead. But modern chemistry, in every respect a more just, rational, and dignified science than what had been called by that name in the preceding age, has opened resources for the *materia medica* of incalculable value; and is daily furnishing the enlightened physician with some of the most efficacious means of preserving health and combating disease.

The chemical inquiries of the eighteenth century have brought to light many new medicines, some of which hold the first rank for convenience, cheapness, and efficacy. From the same source physicians have learned to reject many inert and useless substances which formerly held a place in the *materia medica*. They have been taught, also, by chemistry, greater accuracy in forming their preparations, more easy, efficacious, and correct methods of exhibiting different substances, and more definite rules for adapting remedies to diseases. To enumerate those who have distinguished themselves by contributing to the improvement of the *materia medica*, through the medium of chemical investigations, would be to repeat the long catalogue of great chemists before given, whose names do so much honour to the last age.

Several systematic writers on the *materia medica* have been already mentioned. To these might be

added a much greater number, who have written learnedly and extensively on the subject, did not the limits of this review forbid such an enumeration. It would be improper, however, not to take some notice of what has been done in this department of medical philosophy by Lieutaud, Ferrein, and especially by Venel, of France; by Cartheuser, Spielmann, and Murray, of Germany; and by Hill, Lewis, Alston, Cullen, and Darwin, of Great Britain. Of these the work of Dr. Lewis, improved by Dr. Aikin, that of professor Cullen, and particularly the *Apparatus Medicaminum* of professor Murray of Goettingen*, are entitled to the largest share of esteem.

The late work of professor Barton, on the *materia medica* of the United States†, forms a very valuable addition to the knowledge before possessed on this subject, and reflects high honour on its learned author. From the extent of information, the vigour of mind, and the ardent zeal by which this American naturalist and physician is distinguished, we may hope for further investigations, and richer discoveries of the medical treasures of our country.

* Professor Murray did not live to publish any thing on the mineral or animal articles of the *materia medica*. Professor Gmelin, of Goettingen, has published the *Mineral Materia Medica*, as a supplement to Murray's work; but he is not considered as having done justice to the subject.

† *Collections for an Essay towards a Materia Medica of the United States*, 8vo, 1798. Under this modest title, Dr. Barton has presented a body of information, and discovered an accuracy and extent of learning, which might, without impropriety, have made higher claims. It is pleasing to observe that this work is so favourably received by the author's countrymen, that a *second edition* was lately demanded, into which he has introduced considerable additions and improvements.

Though it is impossible to enumerate all, or even the greater part of the new articles with which the *materia medica* has been enriched in modern times, it may not be improper to take some notice of a few of the most celebrated and useful.

The first application of *Electricity* to medical purposes belongs exclusively to the eighteenth century. It was before observed that Mr. Kratzenstein, of Germany, was the first person who applied the electric fluid to the cure of diseases, and that the course of experiment and inquiry on this subject was further pursued by the abbé Nollet, and by many others, at later periods. After correcting numerous errors arising from the extravagant calculations of the first experimenters on medical electricity, there remains no doubt of its efficacy in many diseases of nervous derangement and muscular debility, so that it is now fully established as an article of the *materia medica*.

Within a few years past, an agent, which is probably nearly allied to electricity, and which is denominated *Galvanism*, or the *Galvanic Fluid*, has become a popular application in certain diseases. The original discovery, together with the progress and gradual extension of this branch of philosophy, was mentioned in a former chapter. That this wonderful agent possesses great efficacy in many cases similar to those in which electricity is found to afford relief, seems to be too well attested to admit of doubt; but the extent of its application, the rules which ought to regulate it, and the degree and permanency of relief which it is capable of affording, have been so imperfectly investigated, that it is difficult to speak with precision or certainty on the subject.

The introduction of *Facilitious Airs* into the materia medica may be considered as marking a splendid and very interesting period in its history. Some facts on this subject were stated in a preceding section, to which it will only be added, that though our knowledge of this important class of remedies is yet in its infancy, there are probably few sources from which more important aid to the physician may be expected to be hereafter derived.

The affusion of *Water*, cold and warm, on the body, in fevers and other diseases, deserves to be mentioned in this place as a new article in the materia medica, at least with respect to the principles and manner of its application. The simplicity, pleasantness, universal readiness of access, and unquestionable efficacy of this remedy, will, it is to be hoped, soon recommend it to general use. The honour due to Dr. Currie, of Liverpool, for his enlightened experiments, and valuable publication on this subject, was before noticed.

The efficacy and uses of *Peruvian Bark* have been better understood, within the last century, than in any former period. Its free and successful exhibition by modern physicians, in *intermittent fevers*, in *scrofula*, in cases of *gangrene* and *mortification*, and in numerous diseases of *relaxation* and *debility*, is well known. To the exertions of sir Hans Sloane and others, in introducing this medicine into general use in Great Britain, much honour is due.

The use of *Mercury* has also been greatly extended, and its effects more accurately observed, during the century under review. The introduction of this metal as a remedy in a multitude of

diseases*, and especially in malignant fevers, may be considered as a memorable event in the annals of medicine. Those who have most distinguished themselves by recommending the use of mercurial preparations in the latter class of diseases are Drs. Rush and Chisholm.

The great extension of the use of *Opium* in the eighteenth century deserves particular notice; but the principles of this extension, and the variety of cases in which it has been lately employed, are too numerous to be detailed.

Digitalis has long held a place in the *materia medica*; but its efficacy in certain diseases, particularly in *dropsy* and *pulmonary consumption*, has been clearly known but a few years. For much information respecting the virtues of this powerful vegetable, we are indebted to the publications of Drs. Withering, Beddoes, and others.

The use of *Lead*, particularly in various external applications, has been better understood, and more frequently employed, within the last half century, than before. Those who have been most distinguished by their inquiries into the medical virtues of this substance are M. Goulard, of France, and Dr. Aikin of Great Britain.

Many of the best preparations of *Antimony* now employed by physicians, were either wholly unknown, or little used, prior to the eighteenth cen-

* The use of *Mercury* in the *Small-Pox* was resorted to in the American colonies first in 1745, when it was employed with success by Dr. Thomas, a respectable practitioner of Virginia, and by Dr. Muirison, an eminent physician of Long Island, in the province of New York.—See Dr. Gale's *Dissertation on Small-Pox*, quoted by Dr. Huxham.

tury. The important station they now hold in medical prescriptions is well understood.

Several of the mineral and vegetable *Poisons* have been either first introduced into the materia medica, or used with unprecedented freedom in the course of the period under review. As a specimen of these it may be proper to mention *Arsenic*, *Conium Maculatum*, *Atropa Belladonna*, *Solanum Dulcamara*, *Hyoscyamus*, and *Datura Stramonium*, which, with several others, have been often and usefully employed by modern physicians.

The introduction of the *Carolina Pink-Root* (*Spigelia Marylandica*), by Dr. Garden, of South Carolina; of the *Seneca Snake-Root* (*Polygala Seneca*), by Dr. Tennant, of Virginia; of *Gum Kino*, by Dr. Fothergill; of *Cuprum Ammoniatum*, and of many new *Acids*, by various persons, into medical use, may also be ranked among the less important of the class of improvements now under consideration.

Finally, it would be difficult to mention a single important article in the materia medica which, in the hands of the physicians of the eighteenth century, has not been better understood, better prepared, more extensively applied, or rendered more convenient and efficacious in its combinations, than in preceding times. Were it possible to include in this brief review a further detail of particulars, it would be easy to mention many great names, and various branches of science, to which the materia medica has been laid under great obligations in the course of this active and eventful period.

To the foregoing review it may not be improper to add, that the eighteenth century is distinguished above all preceding ages by the number and excellence of *Medical Schools*. These have multiplied greatly, have been placed on a more extensive and liberal footing, and been more frequented than in any former period. At the beginning of the century under review, and indeed during the former half of it, the university of Leyden was by far the most celebrated place of medical instruction. Next to this in respectability stood the schools of Italy. Soon afterwards the great school of Edinburgh began to be formed. In 1719 the first Monro, of that city, undertook to deliver lectures on anatomy. He was in a short time joined by other able teachers, who formed a regular plan of medical instruction, and gained, in a few years, a high reputation. Indeed, for more than forty years the school at Edinburgh held the first rank, and was resorted to more than any other by students from all parts of the world. During the last twelve or fifteen years, that celebrated institution may perhaps be said to have, in some degree, declined; or rather to be more successfully rivalled than before by several establishments for medical instruction, especially by some on the continent of Europe. The German medical schools, in particular, have lately much increased both in number and excellence.

Medical Associations, for promoting the intercourse, combining the efforts, and diffusing the concentrated knowledge of many physicians, though not the exclusive product of the eighteenth century, yet, when considered with respect to their

number and usefulness, may be ranked among the distinguishing honours of the period under consideration. They have been greatly multiplied during this period in every civilised part of the world, have made many important publications, and eminently contributed to the advancement of the healing art. To recount the number of these established within the last hundred years, or to make the most general estimate of the services which they have rendered to the science of medicine, would fill many pages.

Next in importance to *Medical Schools* and *Societies*, are the *Medical Journals*, and other periodical publications, intended to promote the science of medicine, which distinguished the last age. It is believed that the honour of giving birth to this species of publication belongs to the century under review. At an early period of it, the *Transactions* of medical societies, and the collections of *Observations* and *Inquiries* on the various branches of the healing art, began to make their appearance, and to awaken the minds of practitioners. Among the regular *Journals* in the English language, exclusively devoted to this department of knowledge, the *Medical Commentaries* of Dr. Duncan, of Edinburgh, hold the first place, both with respect to time and merit. This work was succeeded by the *Annals of Medicine*, by the same gentleman, assisted by his son. Within the few last years of the century, works of this kind have greatly multiplied, not only in Great Britain, but also in many other parts of the learned world. The great utility of these publications is unquestionable. The number of important hints which they have proposed, of

new remedies which they have suggested, and of new paths of inquiry which they have opened, is too great to be reckoned. "It is no exaggeration," says a learned American physician, "to assert, that the medical facts and observations which have been published in the eighteenth century have done more towards explaining the functions and curing the diseases of the human body, than all that remained on record for many, perhaps for all, the centuries that had preceded since the creation*."

The establishment of numerous and extensive *Hospitals*, by which the eighteenth century is eminently distinguished, may be considered as scarcely more favourable to the interests of humanity, than to the advancement of medical science. It has been well observed, that the *heathen world never produced an Hospital*; and if any institutions of this kind now exist among pagans, they have derived from Christendom the benevolent plan. The astonishing multiplication of such establishments, in almost every part of the Christian world, and especially in Great Britain, during the last century, is well known to every intelligent reader; and that every institution of this kind may be considered as a sort of medical school, from which the richest stores of instruction, both in surgery and the practice of physic, are continually drawn, is too obvious to require explanation.

To the peculiarities of the eighteenth century already stated, it may be added, that every branch

* Ramsay's *Review of the Improvements of Medicine*, &c. pp. 16, 17.

of knowledge connected with the healing art has been rendered more *accessible* and *popular* by the exertions of philanthropic and liberal minded physicians. For a number of preceding ages medical science was hidden under the veil of dead languages, and obscured by the technical jargon, and the love of mystery, which long distinguished medical practitioners; but in the course of the century under consideration, and especially the latter half of it, the love of mystery, though not completely vanquished, has much declined. The elements of medical knowledge have been brought down to the capacities of all classes in the community. Plain and popular works for the use of *Families* have been presented to the public, and much useful knowledge respecting the best means, in ordinary cases, of preserving and restoring health, for the first time, generally disseminated. Among the many popular works of this kind which might be mentioned, those of Tissot, Buchan, Willich, and Parkinson, have successively appeared, and acquired much distinction.

The different modes of making impressions on the human system, in various states of disease, through the medium of the imagination, and all the endless impositions of *Quackery* and *Charlatanism*, have been astonishingly multiplied in the course of the eighteenth century. Though medical knowledge has been evidently increasing throughout this period, medical imposture has at least kept pace with it. Among many instances which might be adduced in support of this remark, may be mentioned the audacious pretensions of count Cagliostro with respect to his *Balsam of Life*;

the far-famed imposition concerning *Animal Magnetism*, by Mesmer, and his followers; and more recently, the claims of *Perkinism*, so denominated from Dr. Perkins, late a citizen of the United States. But it is worthy of remark, that, while these kinds of imposture have rather gained ground, those which consist in *Witchcraft*, *Spells*, and *Incantations*, and all the supposed influence of *Demoniacal* powers, in producing health or disease, have manifestly declined within the period under review.

The cultivation and progress of medical science in the *United States* deserves some attention before closing this chapter. It is to be lamented that the want of suitable documents renders a full and satisfactory view of this part of the retrospect impossible: for though little was done in that country, for the science of medicine, until within the last forty years; yet of a considerable portion of that little the knowledge is either totally lost, or preserved only in that vague and indistinct manner in which traditional records are usually presented.

During the greater part of the century under review, and especially the early periods of it, medical science was cultivated with most success in the Middle and Southern States. This was, probably, among other circumstances, chiefly owing to the following causes. In those states many of the physicians were Europeans, who had enjoyed all the advantages of the best schools of physic.

It was more common among them than in the Eastern States, owing to the greater wealth of the former to send young gentlemen to complete their medical education in foreign universities. A taste for researches in natural history also appeared in a number of instances, particularly in the states of *South Carolina, Virginia, Pennsylvania, and New York*, long before a similar taste was formed to the Eastward; and the tendency of such pursuits to enlighten the minds and extend the inquiries of physicians, is too obvious to require elucidation.

One of the earliest publications in America on a medical subject, was an essay on the *Iliac Passion*, by Dr. Cadwallader, a respectable physician of Philadelphia, printed about the year 1740*, in which the author opposes, with considerable talents and learning, the then common mode of treating that disease†. About the same time Dr. Ten-

* Before this, William Bull, the first native of South Carolina, and probably among the first natives of America who obtained a degree in medicine, defended and published, in 1734, at the university of Leyden, his inaugural thesis, *De Colica Pictonum*. He was a pupil of the great Boerhaave, and is quoted by Dr. van Swieten in the following very respectful terms: *Hæc Colica in regionibus Americæ meridionalibus tam frequens est, ut fere pro morbo Endemio haberi possit; uti ab eruditissimo viro Gulielmo Bull, in his oris nato, et nunc feliciter ibi medicinam exercente, sæpius audivi, qui et pulchram de hoc morbo scripsit dissertationem inauguralem, quam in Academia Lugduno Batava defendit anno 1734.—Vide Gerardi L.B. van Swieten Commentaria, tom. iii, p. 357.*

† For several of the names and facts here stated, respecting the early medical writers of America, the author is indebted to the *Review of the Improvements of Medicine*, by Dr. Ramsay, of Charleston, before quoted. The learning and talents displayed by this gentleman, both as an historian and medical philosopher,

naut, of Virginia, published a small work on the *Pleurisy*, in which he brought into view the virtues of seneka snake-root, which were before unknown. Not long afterwards, Dr. John Mitchel, of Virginia, published an ingenious *Essay on the Causes of the different Colours of People in different Climates*, in which he displayed much anatomical and other learning*. About the middle of the century, Dr. Thomas Bond, an eminent physician of Philadelphia, drew up some useful medical memoirs, which were published in a periodical work in London†. Nearly contemporary with the last mentioned publications were several by Dr. Benjamin Gale, a practitioner of medicine in Connecticut, who was much distinguished among his countrymen for his acquirements and skill, and who particularly published a *Dissertation on the Inoculation of the Small-Pox in America*, which has been often mentioned respectfully‡. In 1753 Dr. John Lining, of South Carolina, published an

entitle him to a distinguished place among the benefactors and ornaments of his country.

* This essay was sent to Mr. Collinson, F.R.S., and was intended as a solution of the prize problem on that subject, announced by the *Academy of Bourdeaux*. It was afterwards published in the *Philosophical Transactions*, vol. xliii, p. 102—150. Dr. Mitchel also wrote ably on the *Yellow Fever*, as it appeared in Virginia in 1742. His instructive manuscripts on this subject fell into the hands of Dr. Franklin, by whom they were communicated to Dr. Rush.—See Rush on *Yellow Fever*, 8vo, 1794.

† *Medical Observations and Inquiries*, vols. i and ii.

‡ It is possible that other medical publications appeared in New England, about this time, equally worthy of notice; but the author has not been so fortunate as to see or hear of them.

accurate history of the American *Yellow Fever*, which was the first that was given to the world from our continent. Dr. Lionel Chalmers, of the same state, in 1754, communicated to the Medical Society of London some useful remarks on *Opisthotonos* and *Tetanus*, which were published in the first volume of their *Observations and Inquiries*. This gentleman also published, in 1767, an *Essay on Fevers*, in which he gave the outlines of the *spasmodic theory*, which had been before taught by Hoffmann, and was afterwards more fully illustrated by Cullen. In 1764 Dr. Garden, a scientific physician of South Carolina, before mentioned, presented to the public an account of the medical properties of *Pink-Root*, and gave, at the same time, a botanical description of the plant. About the same time, Dr. Colden and Dr. Jacob Ogden, both of New York, published some valuable observations on a species of *Sore Throat* which was then prevalent and mortal. The former of these gentlemen also made medical communications on other subjects, which were esteemed*. To this list may be added Dr. John Jones, also of New York, who was greatly distinguished as a surgeon, and who published a work on *Wounds and Fractures*, which is an honourable monument of his learning and professional skill.

Though these physicians were not all of them natives of America; and though their publications were generally small, and cannot be said to be of

* Dr. Colden is the gentleman before mentioned as lieutenant-governor of New York, and as having distinguished himself by his knowledge of *Astronomy* and *Botany*.

much value at the present day; yet, considered as indications of a growing taste for medical inquiries, and as among the means of exciting, in a young country, a thirst for knowledge, and an ambition for the attainment of medical fame (as examples of which alone they are mentioned), they doubtless deserve respectful notice in this sketch. They contributed to bring the American practitioners of the healing art, scattered over an immense territory, better acquainted with each other, and doubtless concurred with other circumstances to forward the plans of association and instruction which soon began to take place.

About the year 1762 Dr. William Shippen and Dr. John Morgan, both natives of Pennsylvania, and youthful friends, who had gone to the university of Edinburgh to complete their medical education, and who had received its honours, met in London, whither they had repaired for the purpose of receiving instruction from the large hospitals and excellent teachers of that city. They there agreed to attempt the establishment of a medical school in Philadelphia. Accordingly, in the year 1764, Dr. Shippen gave the first course of lectures upon *Anatomy* that ever was delivered in America. In 1765 Dr. Morgan laid before the trustees of the college of Philadelphia a plan for teaching all the branches of medicine, and conferring medical degrees. This plan was adopted; Dr. Shippen was recognised as professor of *Anatomy*; and Dr. Morgan was appointed professor of the *Institutes of Medicine*, and soon afterwards began to teach them. In the year 1768 Dr. Adam Kuhn, who had studied under the celebrated Linnæus, was ap-

pointed professor of *Botany*, and of the *Materia Medica*; and in 1769 Dr. Benjamin Rush, who had just completed his medical studies in Europe, was chosen professor of *Chemistry*. To these gentlemen was added Dr. Thomas Bond, who was selected to give *Clinical Lectures* on the cases of disease in the Pennsylvania hospital. The first American medical school, thus organised, became the resort of students from every part of the then colonies: it has since undergone considerable changes, by the death and resignation of professors, and new appointments; but continues to flourish; and will now bear a very honourable comparison, at least with regard to the talents and learning of its professors, with the most respectable institutions of a similar kind in Europe.

In 1764 Dr. Shippen lectured to *ten* students. In the season of 1801-2 the number of students attending the different medical professors amounted to *one hundred and thirty*, of whom *twenty-one* were admitted to the degree of doctor of physic.

The laudable example set by the physicians and college of Philadelphia soon excited the zeal of the physicians of New York to establish a medical school in *King's College*: accordingly, in 1767 a letter was addressed to the governors of that institution, by Drs. Samuel Clossey, Peter Middleton, John Jones, James Smith, Samuel Bard, and John V. B. Tennent, urging the propriety and importance of attempting to form a plan of medical instruction, and offering their services for carrying it into effect. In consequence of this letter the go-

vernors, a few days afterwards, elected Dr. Clossey professor of *Anatomy*, Dr. Middleton professor of *Physiology* and *Pathology*, Dr. Jones professor of *Surgery*, Dr. Smith professor of *Chemistry* and *Materia Medica*, Dr. Bard professor of the *Theory and Practice of Physic*, and Dr. Tennent professor of *Midwifery*. In 1770, in consequence of the death of Dr. Tennent, and the removal of Dr. Smith out of the province, the office of instruction in *Materia Medica* was committed to Dr. Middleton, and *Chemistry* to Dr. Bard. Lectures were regularly given by the above-named gentlemen; but no medical degrees had been conferred by the college, when the revolutionary war entirely deranged, and in effect destroyed, the whole establishment.

In 1784 the regents of the university made an attempt to revive the medical school, and went so far as to appoint several professors in *Columbia College* (the new style by which *King's College* became known, on the change of government), for the purpose of pursuing the former plan of instruction. But the gentlemen so appointed did not all deliver lectures; the courses actually given were short and incomplete, and the undertaking languished and finally fell to the ground.

After several other ineffectual attempts to establish a course of medical instruction in the city, the trustees of *Columbia college*, in 1792, organised the school on its present plan, and commenced a course, which has succeeded better than any former attempt. The Faculty of Physic, as then consti-

tuted, consisted of Dr. Samuel Bard, *Dean*; Dr. Wright Post*, professor of *Anatomy*; Dr. William Hamersley, professor of the *Institutes of Medicine*; Dr. John R. B. Rodgers, professor of *Midwifery*; Dr. Nicholl, professor of *Chemistry*; Dr. Richard Kissam, professor of *Botany*; and Dr. Richard Bayley, professor of *Surgery*. These gentlemen, the greater number of whom had received a regular medical education in Europe, soon commenced the several departments of instruction assigned to them. The first medical degrees were conferred by this institution in 1793; and though it has not grown so rapidly as might have been expected from the learning and talents of its professors, yet it holds a respectable station, and has rendered very important services to the interest of medical science in the state.

The third medical school established in the United States, is in the university of Cambridge, Massachusetts. This institution took its rise from the benefactions of several enlightened and liberal persons, who were desirous of promoting the knowledge of medical science. Dr. Ezekiel Hersey, an eminent physician of Hingham, in that state, who died in 1770, bequeathed one thousand pounds, Massachusetts currency, to be applied to the support of a professor of *Anatomy and Surgery*. His widow, at her death, left a

* By means of the zeal and enterprise of professor Post, Columbia college is possessed of a valuable collection of *Anatomical Preparations*; to complete which that accomplished anatomist made two voyages to Europe. It is believed that this is the first collection of the kind introduced into the United States, and certainly the best.

like sum, to be devoted to the same object. His brother, Dr. Abner Hersey, of Barnstable, and Dr. John Cumming, of Concord, left each five hundred pounds, to be also applied to the encouragement and support of medical instruction*. These generous donations were aided by that of William Erving, esquire, an opulent gentleman of Boston, who, a few years afterwards, gave one thousand pounds towards the support of an additional professor†.

Though the first of the benefactions above stated was made some time before the commencement of the revolutionary war, yet nothing effectual was done toward executing the will of these public-spirited donors till near the close of it. In 1781 Dr. John Warren began to lecture in Boston on *Anatomy and Surgery*, and prosecuted his plan for two seasons. In 1783 the government of the university of Cambridge proceeded to organise a regular medical school, when Dr. Warren was appointed professor of *Anatomy and Surgery*; Dr. Benjamin Waterhouse, professor of the *Theory and Practice of Physic*; and Dr. Aaron Dexter, professor of *Chemistry and Materia Medica*. Since that period these gentlemen have regularly de-

* These several sums, amounting to four thousand pounds Massachusetts currency, are funded, and their annual proceeds equally divided between the professors of *Anatomy and Surgery*, and of the *Theory and Practice of Physic*; each of which professorships bears the name of Hersey.

† The bequest of Mr. Erving was exclusively devoted by him to the support of a professorship of *Chemistry and Materia Medica*. This professorship also bears the name of its first and principal benefactor.

livered lectures on the several branches assigned to them ; and though the number of students who usually attend them is comparatively small, yet they are annually increasing ; and the erudition and talents of the professors afford a satisfactory pledge that the institution will, at no distant period, reach a much higher station both of respectability and usefulness.

The fourth medical school formed in the United States is that connected with *Dartmouth College*, in the state of New Hampshire. This establishment for instruction in medicine was founded in the year 1798 ; when Dr. Nathan Smith was appointed professor of *Medicine*, to lecture on *Anatomy, Surgery, Midwifery*, and the *Theory and Practice of Physic* ; and Dr. Lyman Spalding, professor of *Chemistry* and *Materia Medica*. A considerable number of young gentlemen have attended the lectures, and several have received the honours of this institution.

The last medical school established in the United States is that of Lexington in Kentucky. This was founded in 1798, when Dr. Frederick Ridgely was appointed professor of the Practice of Physic, Obstetrics, and *Materia Medica* ; and Dr. Samuel Brown, professor of Anatomy, Surgery, and Chemistry. Its present state is not known.

The establishment of *Medical Schools* in the United States may be considered as forming a grand æra in our national progress, and as producing important effects on the character of our physicians. The happy influence of these institutions has also been much aided by the formation of *Medical Societies* in almost every state, which

have all come into being within the last forty years. The effect of such establishments in exciting a thirst for the acquisition of knowledge; in producing a spirit of generous emulation; in cultivating a taste for observation and inquiry; and in combining the efforts and the skill of physicians in every part of our country, must be obvious to every attentive mind. Many of the *Inaugural Theses*, defended and published by the students in the American medical schools, would be considered as honourable specimens of talents and learning in the most renowned universities of Europe*.

Within the last fifteen years of the century under review, medical publications have greatly multiplied in the United States; many of which do equal honour to their authors and their country†. Among these the numerous and valuable works of Dr. Rush hold the first place; and to no individual are we more indebted for promoting, both by precept and example, that laudable and enlightened zeal for medical improvements, which has been so happily increasing, for a number of years past, among American physicians. In a catalogue of our medical writers, also, Drs. Maclurg, Mitchill, Barton, Ramsay, Caldwell, Currie, and several others, would be entitled to particular notice, did not the limits of

* Within the last ten or twelve years, all the medical schools in the United States have concurred in permitting their medical graduates to write and defend their *Inaugural Dissertations* in the English language. Whether this is to be considered as an improvement, or a literary retrocession, is a question which it is proposed to discuss in another place.

† See *Additional Notes*—(F F).

the present sketch forbid an attempt to do justice to their respective merits.

In the year 1797 a periodical publication, under the title of the *Medical Repository*, was commenced by Drs. Mitchill, Miller, and Smith, which, from the peculiar circumstances of the country, may be considered as an important event, in noting the successive steps of medical improvement in the United States. In the premature death of the last-named gentleman, who bade fair to attain the most honourable eminence in his profession, this work sustained a great loss*. It is still, however, pro-

* Dr. Elihu H. Smith was born in the year 1771, at Litchfield, in the state of Connecticut, where his father, a respectable physician, still resides. He entered Yale college at the age of eleven; and after leaving that institution, completed his education under the care of the rev. Dr. Dwight, since president of Yale college, who at that time presided over an academy of distinguished reputation at Greenfield. After this he pursued a regular course of medical studies under the direction of his father; commenced the practice of physic at Weathersfield in 1792, and removed to the city of New York in 1793, where he remained until 1798, when he fell a victim to the yellow fever, which raged with so much violence in the city in the autumn of that year. The surviving editors of the *Medical Repository* speak of their deceased colleague in the following honourable terms:—

“As a physician, his loss is irreparable. He had explored, at his early age, an extent of medical learning, for which the longest lives are seldom found sufficient. His diligence and activity, his ardour and perseverance, knew no common bounds. The love of science and the impulse of philanthropy directed his whole professional career, and left little room for the calculations of emolument. He had formed vast designs of medical improvement, which embraced the whole family of mankind, were animated by the soul of benevolence, and aspired after every object of a liberal and dignified ambition. His writings, already published, incessantly awaken regret, that the number of them is not greater.

secuted with undiminished excellence and success ; and furnishes at once very reputable specimens of the learning, talents, and zeal, of many American physicians ; and a highly useful vehicle for conveying to the public a knowledge of every improvement in the science of medicine.

They displayed singular diligence and acuteness of research, the talents of accurate and extensive observation, great force and precision of reasoning, and the range of a vigorous and comprehensive mind."—*Medical Repository*, v. ii, pp. 214, 215, *second Edition*.

CHAPTER V.

GEOGRAPHY.

AS few sciences are more interesting than Geography, so few have received more attention, or been more improved and extended during the period under consideration. At the beginning of the century, more than half the surface of the globe was either entirely unknown to the enlightened inhabitants of Europe, or the knowledge of it was so small and indistinct, as to be of little practical value. Since that time such discoveries and improvements have been made, that geography has assumed a new face, and become almost a new science*. A spirit of curiosity has stimulated mankind to unprecedented activity in exploring remote regions of the earth. Individual voyagers and travellers, and private associations, have done much to extend our acquaintance with the globe. Beside the exertions of these, the governments of Great Britain, France, Spain, Sweden, Denmark, and Russia, have severally directed or encouraged expeditions of discovery and of scientific research.

* By *Geography* here is meant not only what the word strictly imports, viz. a description of the extent, divisions, and aspect, of the surface of our globe, but also some of the other *statistical* inquiries, which modern writers, however improperly, have generally agreed to include in geographical treatises.

To which we may add, that the occasional mistakes and misfortunes of mariners, while they overwhelmed with distress the immediate sufferers, have contributed to enlarge the sphere of our information with respect to distant countries, and thus, by a wise arrangement of Providence, to increase the objects and the means of naval enterprise.

Although in these geographical discoveries Great Britain has undoubtedly made the most distinguished figure; yet, with respect to time, the honour of priority belongs to Russia. Early in the century, Peter the Great, to whose mind bold and grand enterprises were familiar and habitual, conceived the design of exploring regions of the earth which had not been before visited by civilised man, and by this means promoting the wealth, cultivation, and aggrandisement, of his empire. In pursuance of this design, he formed several expeditions for discovery, which, though not crowned with complete success, were yet considerably useful, and laid the foundation of greater attainments after his death. It was in his reign that several large districts of country in the north-eastern parts of Asia were first visited and explored by Europeans. Under his auspices, some enterprising navigators, in 1713, discovered the chain of islands called the *Kuriles*, on the coast of Kamtschatka. Under the direction of the same monarch, also, captains Behring and Tschirikow discovered a number of other islands in the adjacent seas, and established a profitable trade with the natives. The former, a native of Denmark, in 1728, first entered the strait which divides Asia from the

American continent, and which was afterwards called by his name*. This spirit of discovery continued to animate the government, but more particularly the subjects, of Russia, for many years after the demise of the czar. About this time some private adventurers in that country became fired with the ambition of discovering a north-east passage to India. Between the years 1730 and 1740, many daring voyagers successively engaged in the prosecution of this plan. Among these, Morovief, Malgyn, Skurahoff, Menin, and Laptief, deserve particular notice. The labours they underwent, and the dangers they encountered, were incredible; but all their exertions and discoveries served only to furnish increasing evidence, that, if such a passage exist, it is next to impracticable, and always dangerous.

In 1740 Behring undertook another voyage; in the course of which, with wonderful fortitude and perseverance, he traversed the ocean, from the coast of Kamtschatka to the isles of Japan, and furnished information which was highly useful to

* Though Behring sailed into this strait, yet (probably owing to the fog) he did not discern land on the eastern side. The strait was more fully explored, a few years afterwards, by capt. Cook, who gave it Behring's name. He discovered that the two continents, at this place, approach within forty miles of each other. It has been since ascertained, by the voyages of Meares, Dixon, Vancouver, la Pérouse, and others, that to the north of this strait the Asiatic shore tends rapidly to the westward, while the American stretches nearly in a northern direction, till, at the distance of about four or five degrees, the continents are joined by solid and impenetrable bonds of ice.

succeeding adventurers. He was followed by Nevodtsikoff in 1745, Paikoff in 1758, Tolstyke in 1760, and various others of less note, by whom several additional groups of islands, in what is called the Northern Archipelago, were discovered, the character of their respective inhabitants ascertained, and new channels of trade laid open to the commercial world.

Lieutenant Synd, also in the Russian service, set out on a voyage of discovery in 1764, and returned in 1768. He steered a course more north-east than any of his predecessors, and made some valuable discoveries between Asia and America.

While the Russians were thus busily and successfully employed in exploring the north-eastern parts of Asia, and the seas between that country and the American coast, the Southern Ocean became an object of attention to several other European nations. In this immense field for the display of naval skill and enterprise, captain Woods Rogers, an English commander, was the first who distinguished himself. He was followed by Feuillie, Frezier, and Barbinais, all of France. To these succeeded Clipperton and Shelvocke, of Great Britain, who, in a voyage of some celebrity round the world, traversed the same seas. Though none of these navigators made very splendid discoveries, yet we are indebted to them all for many details of geographical information, which were at that time highly interesting, and served greatly to instruct and aid those who came after them.

In 1721 the Dutch West-India company fitted out a squadron, under the command of commo-

dore Roggwein, and dispatched him to the Pacific Ocean, in search of unknown countries. The discovery of a southern continent was the particular object of this expedition. And although the respectable navigator to whom it was entrusted did not succeed in accomplishing his main purpose, yet he discovered a number of islands, and was considered as having made a valuable addition to the geographical knowledge of his time.

In 1735 don Juan and don Ulloa were sent, by command of the king of Spain, to South America, on an expedition, which was before noticed, for ascertaining the *Figure of the Earth*. Few voyages have been more justly celebrated than this. By the labours of the bold and active Spaniards who conducted the undertaking, and by the faithful, accurate, and enlightened observations of the French academicians who were united with them in the grand design, not only their primary object was gained, but large and valuable stores of information were furnished, in astronomy, geography, navigation, and the sciences in general.

Soon after the accession of George I to the throne of Britain, he became fired with a zeal for discovery, which had for some time lain dormant in that country. Two voyages were accordingly set on foot, the one under the command of captain Middleton, and the other under the direction of captains Moore and Smyth, with a view to discover a north-west passage, through Hudson's Bay, to the East Indies. It is scarcely necessary to say that both these undertakings were unsuccessful with respect to their main object; still, however, they were productive of some useful information;

as was also the celebrated voyage of lord Anson, undertaken principally for warlike purposes, about the same time *. When his present majesty came to the crown, the same zeal for geographical discovery continued and increased. The delusive hope of finding a great Southern Continent, which had so long filled the minds of the learned, presented an inviting object both to his love of science and his love of glory and aggrandisement. Accordingly captains Byron, Wallis, and Carteret, were successively dispatched, with orders to sail round the world, and to explore with particular care the Southern Ocean. The *Terra Australis incognita*, so fondly sought, continued to elude the search of these enterprising commanders ; but they returned laden with much valuable knowledge of the numerous islands which they had discovered, and of other coasts and shores which they had viewed, and which were but partially known to preceding adventurers.

Among the voyages which have contributed to the improvement of geography, that which was performed, by order of the French king, in 1771 and 1772, by Messrs. de Verdurin de la Crenne, of the Academy of the Marine at Brest, de Borda, member of the Royal Academy of Sciences, &c., and Pingré, chancellor of the university of Paris, ought not to be omitted. Though the primary objects of this voyage were the making experiments on certain *Time-keepers* of le Roy and Ber-

* The account of Anson's voyage, which is well drawn, was said to be executed by Dr. Walters, a gentleman who accompanied his lordship as chaplain ; but the real compiler of the narrative was Mr. Benjamin Robins.

thoud, and the investigation, in general, of the best mode of finding the longitude at sea; yet its able conductors made many other observations, and ascertained many facts of great importance to geographical science. They pointed out the true situation of a number of places, seas, and coasts, before but imperfectly known; rectified charts which had been long in vogue; and gave new and more accurate information on a variety of points highly interesting to navigators.

In 1775 don Juan de Ayala, a Spanish navigator, undertook a voyage for the purpose of exploring the north-western coast of America. He added a little to the sum of geographical knowledge, by discovering some bays, capes, and harbours, between the 47th and 57th parallels of north latitude.

Our knowledge of *Iceland* was greatly improved by the voyage of sir Joseph Banks and Dr. Solander, to that island, in 1772. These gentlemen, being disappointed in their plan of revisiting the South Sea, determined on a northern voyage, in which they were accompanied by the rev. Dr. von Troil, Dr. J. Lind, and several other literary and scientific gentlemen. They gave to the public, as the result of this expedition, much new and important information concerning the geography and natural history of Iceland.

The idea of finding a north-east passage to India was, during a great part of the eighteenth century, generally entertained by navigators. It was before remarked, that the Russians, at an early period of the century, made numerous attempts to solve this important question in geography, but

without success; excepting that each succeeding attempt rendered the practicability, and especially the safety of such a passage, still more improbable. In 1773 captain Phipps, since lord Mulgrave, was dispatched, under the patronage of the British government, toward the North Pole, on a voyage of discovery. He proceeded as far as the 80th degree of north latitude, where the mountains of ice presented invincible opposition to his further progress. Although the expedition of Phipps confirmed the accounts given by the Russians, Dutch, and others, of the impracticability of a passage to the east, through those seas; and although it considerably increased our acquaintance with that part of the globe, not a few believe that such a passage really exists, and that it may yet be found.

But of all the circumnavigators and geographical discoverers who have distinguished the eighteenth century, captain James Cook* ought undoubtedly to be viewed as the most illustrious, whether we consider the extent or the usefulness of his enterprises. His three voyages, undertaken by order, and at the expense of the British government, and performed between the years 1768 and 1779, were productive of a vast fund of knowledge, equally interesting and valuable, concerning the various parts of the world which he visited. He collected important original information, respecting islands and coasts long before discovered, and supposed to be well known. He discovered many others which had never been be-

* Capt. James Cook was born in Yorkshire, in the year 1728, and was killed at Owhyhee, February 14, 1779.

fore visited by any European. And even where the honour of discovery could not be strictly ascribed to him, yet he observed with such accuracy, and described with such faithfulness, that the interests of science, of commerce, and of humanity, are perhaps more eminently indebted to him, than to any other individual in the same sphere of action, since the days of Columbus.

The discoveries made by this celebrated circumnavigator were numerous. He ascertained that the idea, so long and fondly cherished by geographers, of the existence of a great southern continent, was either entirely without foundation; or, that if such a continent existed at all, it must be given up as inaccessible and useless to man. He demonstrated the impracticability of a north-west passage to India, which had been for so many generations an object of solicitude and pursuit, and the attempts to discover which had cost so many lives and expensive voyages. He fully ascertained the vicinity of Asia to the American continent, and thus determined the probability of the latter having been peopled from the former*. He

* Before the discovery of the vicinity of the Asiatic continent to America it had long been considered a question of difficult solution, how the latter became peopled, as the general *Deluge* destroyed all the inhabitants of the earth, excepting those who were miraculously preserved with Noah in the *Ark*, which is generally supposed, after the subsidence of the waters, to have rested on a mountain of Asia. So formidable did this difficulty appear to some, that it led them to renounce their belief in the sacred history. It is true, several plausible, and even probable suppositions might be made to avoid this impious alternative; but the discoveries of Cook, and succeeding navigators, show that there is no difficulty in the case. The two continents are now

discovered a number of islands, particularly *New Caledonia* and the *Sandwich Islands*, some of them large and populous, and presenting important objects of commercial and scientific pursuit. His observations threw much light on the manners, the trade, the affinities, and the probable origin of nations. And, finally, to the laudable exertions of this distinguished voyager, and to those of the learned men who accompanied him*, almost every branch of natural history is indebted for great and valuable improvements. And though to these important services his life was finally sacrificed; yet seldom has the memory of any man been loaded with more just and liberal honours, not only by his countrymen, but by the civilised world.

While capt. Cook was accomplishing the splendid discoveries which have placed him above all rivalry in the history of modern navigation, the French government, desirous of signalising itself in the same honourable career, began to project voyages for this purpose. Accordingly, in 1766 M. Bougainville, a naval commander of talents and enterprise, was sent on a voyage of discovery, in the course of which he circumnavigated the globe. His discoveries were numerous and important, consisting particularly of a number of islands in the Pacific Ocean. He displayed great abilities as an officer, observed with accuracy, and reported with

known to approach so near to each other, that, even setting aside the possibility of passing from one to the other on the *ice*, the passage might easily have been effected by means of *canoes*, or small *boats*.

* Sir Joseph Banks, Dr. Solander, Dr. Forster, and several others.

faithfulness; and the instruction with which his narrative abounds shows him to have been a man of an enlightened and liberal mind. In firmness, resolution, and talents for observation, he was probably little if at all inferior to the celebrated Cook; and although the list of his achievements is by no means so large or so brilliant as those of the British commander, yet his voyage will long be accounted honourable to himself, to his sovereign, and to his country. To Bougainville succeeded Messrs. Pages and Surville, who also made a number of valuable discoveries and observations, especially in the Southern Ocean, which have secured for their names an honourable place in the history of modern voyages. In 1771 Kerguelen, Marion, and du Clesmur, were successively busied in exploring the same seas, in quest of the southern continent. And though the additions which they made to our knowledge of the globe were by no means great, yet they were such as to entitle them to respectful mention in the present sketch.

Soon after the peace of Paris, in 1783, a new voyage of discovery was projected by the French government, and preparation made for carrying it into effect. The objects of this expedition were to improve geography, astronomy, natural history, and philosophy in general; to collect accounts of the customs and manners of different nations; and to open new fields of commercial enterprise. Never, probably, was the plan of a voyage more enlightened and extensive, the instructions given to its conductors more scientific and precise, or the provision made for its execution more liberal and

perfect*. The immediate direction of it was committed to Messrs. de la Pérouse and de Langle, accompanied by a number of learned men, who, in 1785, sailed from France, under the most favourable auspices. Seldom has any expedition of the kind excited so general an interest throughout the civilised world, or promised more brilliant success. The melancholy fate of la Pérouse and his companions is well known. Happily, however, all knowledge of the voyage is not lost with its unfortunate conductors. From the accounts which have been published, it appears that we are indebted to them for some important geographical discoveries, especially on the north-western coast of America, and on the eastern coast of Asia, and in the seas between that continent and Japan. From them, also, the accounts of some preceding navigators have received satisfactory confirmation; the mistakes of others have been corrected; and impositions under which the learned world had long lain, either through the ignorance or dishonesty of their authors, have been detected and removed.

The discovery of the great extent of *New-Holland* deserves to be mentioned among the most important acquisitions in modern geography.—That large portion of our globe, which may indeed be called, with propriety, a new *continent* †,

* See the voyage of la Pérouse, particularly vol. i.

† The length of *New Holland* is about 2730 miles, and its breadth about 1950; so that its extent is but a quarter less than that of *Europe*. It does not appear to be yet reduced to an ab-

had been discovered as early as the beginning of the seventeenth century, and, as some suppose, earlier*; but for more than a hundred years after this discovery little was known respecting it. Many supposed it to be a part of the great southern continent, for which navigators had been so long and eagerly searching. In 1770 the celebrated captain Cook visited and explored the eastern coast of New-Holland, to the extent of near two thousand miles. In 1773 its *insular* situation was ascertained by captain Furneaux. Since that period much geographical and other information respecting it has been obtained, and presented to the public, by Hunter, Marshall, Collins, and several others, who have done much toward investigating the appearance and productions of some important portions of that extensive country †.

To the above may be added the discovery of the *Pelew Islands*, in 1783, by captain Wilson; the discovery of several islands, a few years afterwards, by captain Shortland, between *New-Holland* and *Java*; the discovery of another cluster, about the same time, by captain Marshall, in the seas between *New-Holland* and *China*; and the still more interesting information given us by the successive voyages of Portlock, Dixon, Etches, Meares, and

solute certainty, whether the whole of this great territory is a continued tract of land, or divided into two or more islands by narrow straits.

* Mr. Pinkerton, the latest, and probably the best systematic writer on Geography in the English language, seems rather inclined to adopt the opinion that New-Holland was discovered by the Portuguese and Spaniards, near a century before the Dutch navigators saw *Van Diemen's Land*.

† See the *Voyage of Governor Phillip*, 4to, 1789.

Vancouver, concerning the north-western coast of America. By the last of these navigators, particularly, we have been made acquainted with the existence of islands, on that side of our continent, not less numerous or extensive than those on the eastern side; and with many new facts, which throw light on the geography, productions, and advantages of that part of the globe.

The Spanish nation was once among the most adventurous and enterprising in Europe. The discoveries made in former times under its auspices, and the talents and achievements of its naval commanders, raised it high in the scale of national greatness. This spirit has been in a great measure dormant, for near a century and a half. Excepting the voyage of don Ulloa, no expedition of any magnitude, for promoting knowledge, had been instituted by the Spanish government for a long time previous to that which is about to be mentioned. The published accounts of Cook's voyages soon excited the curiosity and the jealousy of that nation. The government fitted out several vessels, at different times, for the purpose, and with the hope of rivalling, if not surpassing, the exploits of the far-famed English discoverer. Of these attempts, the latest and most conspicuous was that made in 1789, under the direction of don Malespina and don Bastamente. These commanders deserve an honourable place among the geographical discoverers of the century. They made many valuable maps and charts of coasts, particularly on the American continent; which, though visited before, had not been satisfactorily explored or delineated. They discovered a new cluster of islands

in the Southern Ocean ; and contributed not a little to extend our knowledge of navigation, natural history, and the habits and manners of various savage nations, of whom little was before known.

In 1785 commodore Billings, an Englishman in the Russian service, was dispatched by the empress to explore some of the northern parts of Russia ; more particularly to determine the latitude and longitude of the mouth of the river *Kovima*, and the situation of the great promontory of the *Tshutski*, as far as the East Cape ; to form an exact chart of the islands in the Eastern Ocean, extending to the coast of America ; and, in short, to bring to perfection the knowledge acquired of the seas lying between Siberia and the opposite coast of America. Though this expedition did not answer the expectation of its royal patron, it furnished some additions to our geographical knowledge. Commodore Billings, in particular, ascertained the latitude of the mouth of the *Kovima*, and returned to Petersburg, in 1794, with a variety of less important details of information, useful to navigation and geography*.

In the years 1790, 1791, and 1792, a voyage round the world was performed in the ship *Solide*, commanded by captain Etienne Marchand, a French naval officer of reputation. From this voyage resulted the discovery of a group of islands in the Pacific Ocean, in the neighbourhood of the *Marquesas*, and some additional particulars of information respecting the north-west coast of America.

* See *An Account of a Geographical and Astronomical Expedition, &c.*, by Martin Sauer, 4to.

Beside the more distinguished voyages which have been enumerated, several others are entitled to notice in the present sketch, as having contributed to the improvement of geography. The voyages of Nieuhoff and Osbeck, to *China*, early in the century; the voyage of Chabart, in 1753; that of Courtanveaux, in 1768; of Stavorinus, to some of the Asiatic Islands, in 1768; of Kerguelen, to *Iceland, Greenland, Shetland, and Norway*, in 1772; of Forrest, in 1774; of Entrecastaux, in search of *la Perouse*; of the missionaries to the South-Sea Islands, and several others, who have all furnished some new and valuable information concerning the countries which they respectively visited.

From the foregoing very imperfect view of what has been done by the principal *Naval* discoverers of the eighteenth century, to extend our knowledge of the globe, it will appear to form a great amount of geographical improvement. Their achievements, however, form but a part of our acquisitions in geography; for, while discoveries by sea have succeeded each other with astonishing rapidity, enterprising *Travellers* have been equally diligent, bold, and persevering, in exploring the interior of countries before unknown, and in making us acquainted with their territorial limits, their governments, manners, riches, and science. Some notice of these will be necessary, in order to give a tolerable exhibition of modern advances in geographical knowledge.

At the beginning of the century under consideration, the greater part of *Asia* was comparatively little known. While the names of its various king-

doms, especially on the sea-coast, were familiar to the scholar, their internal limits and condition were very imperfectly understood even by the best informed. But since that time rich additions have been made to our knowledge of this quarter of the globe.

Peter the Great, after the battle of Pultowa, sent many Swedish prisoners into *Siberia*. Until that time little had been known concerning the interior of those northern regions. Strahlenberg, one of the prisoners, employed himself in exploring the country, for the promotion of geographical knowledge. He collected and published much important information; and his map of that part of Asia which he delineated, and presented to the public in 1737, may be considered as laying the first foundation for any thing like accurate acquaintance with that portion of the Asiatic continent. The knowledge derived from Strahlenberg has been since greatly improved and extended by the travels of professor Pallas and others.

About the year 1716, Dr. Shaw, an English gentleman of character, travelled into *Syria* and *Palestine*, and collected much valuable information concerning those countries, particularly calculated to elucidate and confirm the sacred history. In 1720, Mr. Bell travelled, in the suite of the Russian ambassador, from *Petersburg* to *Pekin*; and, in the course of his journey, made many curious observations on that part of Asia through which he passed, which he afterwards presented to the public in a very interesting form. At several later periods *Syria* has been visited, and many additional accounts respecting it given by the abbé Mariti,

M. Volney, M. Cassas, and Mr. Browne. During the same period, our knowledge of *Arabia* has been extended by the travels of Niebuhr, Sauvebœuf, and others. *Persia* has been also more fully explored than ever before, by Hanway, count de Ferriers, Sauvebœuf, Franklin, Gmelin, Pallas, and Forster. The geography and condition of *Hindustan* have been elucidated in a very interesting manner by Hodges, Bartholomeo, Forster, and, above all, by major Rennel, whose map of that country, and his memoir accompanying it, have been pronounced, by a good judge, one of the most instructive and valuable geographical presents ever made to the public*.

Toward the close of the seventeenth century, some valuable information respecting *China* had been obtained through the medium of Christian missionaries from Europe. Since that period our acquaintance with China has been greatly extended. For this we are chiefly indebted to the works of du Halde †, Grosier, Staunton, and van Braam. Few works have been read with more interest than the celebrated account of lord Macartney's Embassy, by sir George Staunton; and seldom has any

* *Historical Disquisition concerning India*. By William Robertson, D. D. F. R. S., 8vo, 1791. *Preface*.

† Jean Baptiste du Halde was born in Paris, in 1674. He was extremely well versed in Asiatic geography. His great work, entitled *Grand Description de la Chine, et de la Tartaire*, in four vols. folio, was compiled from original papers of the Jesuit missionaries. He was also concerned in a collection of letters begun by father Gobien, entitled *Des Lettres Edifiantes*. He died in 1743.—Though he appears so familiar with the geography, scenery, and manners of China, he never was ten leagues from Paris in his life.

work of the kind been found more rich in curious information. *Tartary* has been, during the same time, partially explored by various travellers; the *Birman Empire*, by Symmes; *Tibet*, by Turner; *Kamtschatka*, by Lesseps, and others.—To the above sources of information concerning different parts of Asia may be added the *Asiatic Society* at *Calcutta*, and particularly its late illustrious president, sir William Jones, whose diligence and success in investigating every avenue of knowledge, relating to the arts, sciences, literature, government, morals, and religion of the principal Eastern empires, were only equalled by his exalted virtues, and his stupendous general learning, which render him a prodigy of the age in which he lived *.

For much important information respecting the geography of *Siberia*, we are indebted to Plenisher, commander of *Ochotsk*, in the Russian service. He received orders from the court of Russia to proceed to *Anadirsk*, and to procure all possible information concerning the north-eastern parts of *Siberia*, and the opposite continent. He returned to *Petersburg* in 1776, and brought with him several maps and charts of the north-eastern parts of *Siberia*, which were considered as highly authentic documents, and which were afterwards made use of in the compilation of the *General Map of Russia*, published by the Academy of *Petersburg* in 1776. *Siberia* has also been visited during the eighteenth century, and valuable information concerning its geography communicated by Bell, d'Aueroche, Pallas, and Gmelin.

* See his *Works*, lately published with great splendour in 6 vols, 4to. See also the *Asiatic Researches*—*passim*.

Much new and valuable information respecting the *Asiatic Isles* has also been obtained, and laid before the public, by various modern travellers. Since the time of Kœmpfer*, *Japan* has been visited by Thunberg, and others, who have made interesting additions to what was before known concerning that empire. The *Philippine Islands* have been successively visited and examined by Sonnerat, Forrest, and Stavorinus; the *Sunda Islands*, by Beeckman, Marsden, Foersch †, Sonne-

* Though Kœmpfer, the famous traveller in *Japan*, visited that island towards the close of the seventeenth century, yet, owing to his death, the account of his voyage was not published till 1727, when it was laid before the public by Dr. Scheuchzer, to whom Kœmpfer's manuscripts were committed by sir Hans Sloane.

† Foersch's narrations are not always to be relied on. His celebrated account of the *Bohun Upas* tree, said to grow in the island of *Java*, has been long a monument of his credulity, or of his disposition to exaggerate. It is somewhat surprising that Dr. Darwin should treat this account with so much respect. (See the notes to his *Botanic Garden*.) The truth is, if we may credit the declaration of the most credible modern travellers, no such tree exists. It is certain, however, that the vegetable poisons of some Asiatic islands are uncommonly numerous and extremely virulent. In the island of *Celebes* they are so frequent and deadly, that it has been called the *Isle of Poisons*. It produces, we are told, the dreadful *Macassar* poison, a gum which exudes from the leaves and bark of a species of *rhus*, probably the *toxicodendron*. This species, together with the other poisonous trees on the same island, is called by the natives *ipo* or *upas*. Such, indeed, is the deleterious activity of this tree, that, when deprived of all poetic exaggeration, it still remains unrivalled in its powers of destruction. From the sober narrative of Rumphius, we learn that no other vegetable can live within a nearer distance than a stone's throw; that birds, accidentally lighting on its branches, are immediately killed by the poisonous atmosphere which surrounds it; and that, in order to procure the juice with safety, it is necessary

rat, Thunberg, Forrest, and le Poivre; and *Ceylon* by Thunberg; beside the numberless details received concerning less important islands, and by less conspicuous travellers, at different periods of the century.

At the commencement of the period under review, the interior of *Africa* was even less known than the Asiatic continent. In fact, little more had been done than to survey the coasts, and to mark the capes and harbours of this quarter of the globe. But since that time, by the exertions of a number of intelligent and persevering travellers, our knowledge of that extensive country has rapidly increased; and there seems to be a fair prospect of our curiosity being, at no great distance of time, much more fully gratified. Early in the century, the travels of Dr. Shaw into *Barbary*, of Pococke and Norden into *Egypt*, and of Kolben to the *Cape of Good-Hope* and the parts adjacent, furnished the civilised world with much valuable information concerning those countries. At later periods *Egypt* has been explored upon a more satisfactory and philosophical plan by Niebuhr, a commissioner of the king of Denmark for this purpose; and by Savary, Volney, and Sonnini, distinguished travellers of France. To which may be added the interesting communications respecting the geography and natural history of that country, by the learned men lately sent thither, in connexion with the far-

to cover the whole body with a thick cotton cloth. If a person approach it bare-headed, it causes the hair to fall off; and a drop of the fresh juice, applied on the skin, if it do not produce immediate death, will cause an ulcer very difficult to be cured.—See Pinkerton's *Geography*, vol. i, p. 517.

famed and extraordinary expedition by the French government.

The interior of *Southern Africa* has, within a few years past, been explored and made known to us by de la Caille, Thunberg, Sparmann, Vaillant*, Patterson, and Barrow; while the *Northern* parts have been visited and examined by Poiret, Lempriere, Chenier, Hoest, Agrell, and others; from whose travels a great mass of new and curious facts may be derived respecting the natural, civil, and moral condition of those barbarous countries.

Prior to the year 1768 little had been heard or known of the great kingdom of *Abyssinia*, from the time of the Jesuit Lobo, until that period. It was in the above-mentioned year that Mr. Bruce, a Scottish gentleman, well known in the annals of modern travel, undertook to explore that extensive territory, with a particular view to ascertain the source of the *Nile*. The dangers which he encountered in this enterprise, the difficulties which he overcame, and the views which he exhibits of the countries that he visited, present a very amusing and instructive spectacle to the inquiring mind, notwithstanding the occasional errors into which he falls, and the inordinate vanity which appears in every page of his narration. It has been said, that to this ardent and intrepid man we are indebted for more important and more accurate information concerning the interior of Africa, and

* Both Sparmann and Vaillant, especially the latter, have been charged with being deficient in that first of all requisites in a traveller, *fidelity*.

especially concerning the nations established near the Nile, from its source to its mouths, than all Europe could before have supplied. The travels of Mr. Browne in *Egypt*, and some adjacent parts of Africa, considerably enlarged the sum of our geographical knowledge, and presented to the inquisitive reader a variety of curious information.

In 1788 a number of the nobility, and other gentlemen of liberal curiosity, in Great Britain, formed an association, the express object of which was to explore the interior of Africa. This object they have pursued with a laudable zeal, and with a very honourable and gratifying success*. The successive travels of Houghton, Lucas, Ledyard †,

* See the *Proceedings of the African Association*.

† Mr. John Ledyard was an American, born in the state of Connecticut. He entered Dartmouth college, in New Hampshire, at the usual age, with a view to the study of divinity; but, being obliged to leave that institution, on account of the narrowness of his circumstances, before his education was completed, he resolved to indulge his taste for activity and enterprise. Accordingly, he engaged as a common sailor on board a ship bound from New York to London. On his arrival there he entered as corporal of marines with the celebrated captain Cook, then about to sail on his third voyage of discovery. Young Ledyard was a favourite with that illustrious navigator, and was one of the witnesses of his tragical end. After this he travelled many thousand miles through the northern parts of Europe and Asia, intending to pass from the latter to the American continent, and traverse the interior of his native country. But being arrested in the pursuit of this plan by order of the empress of Russia, he at length returned to England, where, in 1788, he engaged in the service of the African Association, for the purpose of exploring the interior of that country. In pursuance of this agreement, he reached Cairo, in Egypt, in the month of August of the same year. He had, however, scarcely entered on his travels, when death unexpectedly terminated his career.

Park, and Horneman *, under their direction, have been productive of much new and curious information concerning the countries which they visited. Mr. Park, in particular, has recently brought to our knowledge a more interesting and important number of facts concerning the moral, political, and physical condition of *Western Africa*, than had been done by any preceding traveller †. Nor is it a circumstance of small moment, in estimating the value of Mr. Park's travels, that they have called forth, from major Rennel, a very learned and instructive body of remarks, and other materials for throwing light on the geography of that extensive country. The succession of maps, delineating important portions of Africa, published by this last-named gentleman, between 1790 and 1800, forms a curious series of documents respecting our progressive knowledge of that quarter of the globe. The publications of Loyart and Degrandpre also contain some valuable information concerning *Western Africa*, particularly the large territory included under the names of *Congo* and *Loango*.

In 1791 a society was formed in Great Britain, by a number of benevolent persons, under the name of the *Sierra Leone Company*. The principal design of this society was to obtain a settlement, on that part of the coast of Africa called by the name

* Two great objects of African curiosity have been accomplished in the eighteenth century, *viz.* the discovery of the *Sources of the Nile*, by Bruce; and of the site and condition of the famous *Temple of Jupiter Ammon*, by Horneman.

† The narrative of Park's journey is said to have been written by the late Bryan Edwards. See *History of the West Indies*, vol. iii, Advertisement by sir William Young.

which they assumed, for a large body of destitute Africans, or descendants of Africans, then in the British dominions; and, through the medium of this colonial establishment, to do something toward the introduction of knowledge and civilisation into those benighted regions. Although instituted with a different view, the exertions of this society have subserved the cause of geographical discovery. The messengers and agents of the association have added not a little to our knowledge of Africa. Among these, Messrs. Watt and Winterbotham deserve to be honourably mentioned. Their enterprising journey into the interior of the country, and especially the information which they furnished respecting the *Foulah* nation, entitles them to the thanks of every lover of humanity and of science.

New light, of a curious and interesting kind, has also been thrown, during the period under review, on the geography and condition of some of the *African Islands*. For much of this information we are indebted to Adanson, Rochon, Marion, Cook, Grant, Bernardin de St. Pierre, and sir William Jones*. Several of these gentlemen observed with a philosophic eye, and communicated their knowledge with a scientific precision, which it may be asserted are found with peculiar frequency among modern travellers.

A large portion of *Europe* was so well known, antecedently to the commencement of the period which we are considering, that geographical discoveries could scarcely have any place with respect

* Sir William Jones has given the best account of the *Gomoro Isles* extant.—See the *Asiatic Miscellany*.

to it. But from this general remark must be excepted the empire of *Russia*, and *Turkey in Europe*; together with *Lapland and Iceland*. Concerning these important portions of the globe the last age has brought to light much valuable information, beyond what the most learned of the preceding century possessed.

When Peter the Great mounted the throne, the *Russian Empire* was, properly speaking, ranked among the *incognita* of the earth. That celebrated monarch early engaged in projects for exploring the interior of his vast dominions, and developing the resources, the capacities, and the wants of his people. Much was done, during his reign, toward the accomplishment of this object; but he left still more to be performed by his successors. His design was prosecuted with great zeal and success, by Catharine II; who, in 1768, sent a number of learned men to different parts of her extensive empire, to ascertain its physical, moral, and political condition. They were ordered to pursue their inquiry upon the different sorts of earths and waters; upon the best methods of cultivating the barren and desert spots; upon the local disorders incident to man and animals, and the most efficacious means of relieving them; upon the breeding of cattle, and particularly of sheep; on the rearing of bees and silk-worms; on the different places and objects of fishing and hunting; on minerals; on arts and trades; and on forming a *Flora Russica*, or collection of indigenous plants. They were particularly instructed to rectify the longitude and latitude of the principal towns; to make astronomical, geographical, and meteorological observations; to

trace the courses of the rivers; to make exact maps and charts; to be very distinct and accurate in remarking and describing the manners and customs of the different people, their dress, languages, antiquities, traditions, history, and religion; and, in a word, to gain every information which might tend to illustrate the real state of the whole empire*.

In this arduous service, Pallas, Gmelin, Lepechen, Guldenstædt, and others, were, about the same time, employed, and furnished with every accommodation, in the power of their royal patron, which could facilitate their pursuit. It is generally known that they performed the task committed to them with ability and faithfulness; and that they collected and communicated rich stores of knowledge relating to the districts which they respectively visited. Indeed, their researches may be considered as the basis of all the best and most authentic accounts which have been subsequently given to the world concerning that growing empire. The observations made by professor Pallas, during his laborious and persevering tours, have been regarded as peculiarly instructive and valuable.

Since the travels and discoveries of the Petersburg academicians above named, a number of other travellers have adventured in the same ample field of observation and inquiry. There is not room in this place to recount their names or achievements. The travels of Mr. Coxe, the well

* Coxe's *Travels into Russia*, &c. vol. ii, p. 350, 351, &c. For the particular account of the different routes &c. of these learned travellers, see Tooke's *View of Russia, Introductory Discourse*.

known British tourist, in that country, furnish the reader with much instruction and entertainment. But probably the most complete and satisfactory accounts of Russia now extant are to be found in the *Physical, Moral, Civil, and Political History of Russia, ancient and modern*, by M. le Clerc; in the *Description of all the Nations in the Russian Empire*, by M. Georgi; and, lastly, in the *View of the Russian Empire*, by Mr. Tooke.

Concerning *Turkey in Europe*, the progress of our knowledge has been slower and less interesting. It still remains, in a great measure, among the unknown parts of the earth. But there is little ground to regret our ignorance of it, since there seems abundant reason to conclude that it presents but few grand or pleasing objects to the inquiring mind. Fixed as it were in a state of intellectual and moral congelation, its inhabitants offer nothing to interest, or to instruct, save an example of evils to be abhorred and avoided. Such, however, as they and their country are, we have derived some valuable information concerning them from various sources. Among these, perhaps the most respectable are the accounts of Peyssonelle, Sestini, Guys, and Toderini; and the travels of Chandler, baron de Tott, Demo, Stephenopoli, Boscovich, Scrofani, d'Ohssohn, and Olivier; to which may be added, as in a certain view worthy of attention, those of lady Montague, lady Craven, and Mr. Dallaway. But probably the most full and satisfactory account of this portion of the globe, to be found in any one work, is comprised in the *Survey of Turkey*, by Mr. Eton. From these sources a tolerable idea may be formed, not only of the geography, strictly

speaking, but also of the manners, arts, literature, and general condition, of that degraded country.

Beside the travellers above mentioned, who have explored the interior of countries before little known, the last century is remarkable for having produced an unprecedented number of that species of works denominated *Travels*, *Tours*, and *Journeys*, into parts of the world before generally known, and frequently visited. To attempt an enumeration of these would far exceed the limits of the present sketch; and to select a small portion out of the immense number would almost necessarily involve some injustice to the rest. Though these travellers have added little to the stock of geographical knowledge, properly so called, they have thrown much light on the manners and customs of various nations; they have made the literati of different countries better acquainted with each other; and many of them abound with pictures of human nature at once lively, just, new, and highly interesting. Perhaps, indeed, this characteristic of modern travels deserves to be mentioned as in some degree peculiar to the last age. That there is a philosophic cast, an attention to the different shades of human character, and an aspect of scientific inquiry, more prevalent in some late productions of this class, than can be found in most of their predecessors, has probably been often remarked by the most superficial readers.

At the beginning of the eighteenth century, by far the greater part of the *American Continent*, and even of what is now called the *United States*, was unknown territory. Since that time a considerable portion of it has been explored, and much curious

information respecting it furnished by numerous travellers.

Different portions of the *Southern* and *South-Western* parts of North America have been visited and explored during the period under review, by Lawson*, Bossu†, du Pratz, Crozat, Charlevoix, d'Auteroche‡, Clavigero§, Adair||, and Bartram¶, whose publications abound with instructive and interesting narratives, concerning the territorial limits, the inhabitants, and the natural history of the districts which they traversed.

Much information concerning the geography of the *Western* parts of North America has been given by Boon, Carver**, Hutchins, and others; particu-

* *A New Voyage to Carolina, containing the exact Description and Natural History of that Country.* 4to. 1709. This is a valuable work. The author was surveyor-general of North Carolina, at the beginning of the century. Brickell is also mentioned, in connexion with Lawson, as having contributed to extend our knowledge of that country. But Brickell's publication is nothing more than a villainous imposition. He put his name to Lawson's work, and not only copied verbatim whole pages, but the entire volume, excepting merely those alterations which became indispensably necessary to give some decent colouring to the imposture. Brickell's publication appeared in 1737.

† *Travels in Louisiana.* Translated by Forster. 2 vols. 8vo. 1771.

‡ Jean d'Auteroche Chappe, a French astronomer, who was born in 1728, went, in 1769, to *California*, to observe the *Transit of Venus*. His *Voyage to California* contains some interesting information concerning that country. He died there, some time after his arrival, of an epidemic disease.

§ *History of Mexico.* 2 vols, 4to.

|| *Account of the American Indians.*

¶ *Travels through North and South Carolina, Georgia, &c.*

** *Travels into the Interior of North America, from 1706 to 1768.*

larly the Moravian missionaries, from whom some of the best accounts of the physical and moral condition of that portion of our continent have been communicated to the public*.

The *Northern* and *North-Western* parts of North America have been visited, at different periods during the century, by Charlevoix, Curry, Long†, Pond, Cartwright, Hearne‡, Henry, Turner, and Mackenzie§. The last-named traveller has the honour of being the first white man who ever reached the Pacific Ocean, by an overland progress from the east. Some valuable information concerning this portion of the continent, has also been communicated by certain Moravian missionaries, who resided for a number of years in that inhospitable region||.

Beside the travellers who with laudable enterprise have done much toward exploring such parts of the country as were a few years ago wholly

* See the *History of the Missions of the United Brethren among the Indians in North America*. By George Henry Loskiel. Translated by Latrobe. 8vo. London. 1794.

† *Travels of an Indian Interpreter*. 4to. 1772.

‡ *Journey from Prince of Wales's Fort, in Hudson's Bay, to the Northern Ocean*. 4to. 1795.

§ Mr. Mackenzie, now sir Alexander Mackenzie, ascertained, beyond all dispute, that there is no northern communication between the Atlantic and Pacific Oceans, except at so high a latitude as to be rendered wholly impracticable by perpetual ice. This long-contested question will probably be considered henceforth as settled.

|| See a *Description of Greenland, &c.*, by Hans Egede, who had been a missionary in the country for twenty years. Translated from the Danish. 8vo. London. 1745. See also the *History of Greenland, &c.*, by David Crautz. Translated from the German. 2 vols, 8vo. 1767.

unknown, we are indebted to many other gentlemen for various publications which have served greatly to improve American geography. The *Geographical Essays* of Lewis Evans, published in 1755, together with the maps accompanying them, formed an important step in the progress of our knowledge of that part of America of which he treated. Dr. John Mitchill, an Englishman, who resided some years in Virginia, and whose name has been frequently mentioned in this work, contributed not a little to extend our knowledge of American geography. His *Map of North America*, published about the year 1755, was, for some time after its publication, the best extant. The geography of *Virginia* has been well illustrated by Mr. Jefferson; of *Kentucky*, by Mr. Inlay; of *New Hampshire*, by Dr. Belknap; of *Vermont*, by Dr. Williams; and of the District of *Maine*, by Mr. Sullivan. But the most full and satisfactory work on American geography hitherto given to the public, is that by the rev. Dr. Morse, whose talents, zeal, and industry, in collecting and digesting a large amount of information on this subject, are well known both in Europe and America, and have been very honourably rewarded by public patronage.

The geography of *South America*, though far from being so fully and accurately understood as could be wished, has yet been much investigated and made known during the last age. At an early period of the century don Ulloa, who was before mentioned, visited and spent much time in *Peru*, *Chili*, the kingdom of *New Granada*, and several of the provinces bordering on the *Mexican Gulf*

At the same period, and in the same part of the New World, Messrs. Condamine, Godin, and Bouguer, travelled for several years, and communicated to the public a great variety and a very valuable amount of information respecting the interior of those extensive countries. The travels also of Cattaneo, Helms, and Dobritzhoffer, in *Peru* and *Paraguay*; of Bancroft and Stedman, in *Guiana*; of Armateur, in *Cayenne*; of don Molina, in *Chili*; and of Falkner*, in *Patagonia*, have contributed greatly to enlarge the sphere of our knowledge respecting the southern division of this western continent. Don Malespina, before mentioned, made an excellent survey of the coast, from *Rio de la Plata* to *Panama*. But the best geographical view ever published of a large portion of South America is exhibited in the *Mapa Geographica del America Meridional*, published in 1775, by don Juan de la Cruz, geographer to the king of Spain†.

Beside all the discoveries and improvements stated in the foregoing pages, to which the enterprise of navigators and travellers has given birth, the last age is distinguished, above all others, by the production of large and excellent systematic works on the subject of geography. The difference in fulness and accuracy, between the geographical treatises published at the commencement of the eighteenth century, and those which appeared toward the close of it, can be adequately conceived

* Falkner, who was a missionary, published a Map of *Patagonia* in 1774. It is not, however, considered as equally correct with that of la Cruz.

† This map was republished, in London, with improvements, by Faden, in 1799.

by none but those who have compared them together. The successive works of Gordon, Bowen, Middleton, Collyer, Salmon, Guthrie*, and Payne, held an important rank at the dates of their respective publications. The extensive geographical work of Mr. Busching, of Germany, may be considered as, on the whole, the most laborious and complete of the age. To these may be added the large and very respectable work of professor Ebeling on the geography of America†, and that of Bruns on Africa.

The elucidations of *Ancient Geography*, by several modern writers, are highly interesting and valuable, and deserve to be regarded among the signal improvements of the eighteenth century. The service rendered to science in this way by M. d'Anville‡ is too well known to require eulo-

* This work, it is said, was not compiled by Guthrie, whose name it bears, but by another person, who had the permission to avail himself of the popularity of that gentleman's character. The stratagem succeeded; the work, with all its deficiencies and errors, immediately gained general patronage, and entirely supplanted Salmon's *Geographical Grammar*, which had before enjoyed universal favour.

† The diligence and success with which professor Ebeling has laboured to elucidate the geography and history of the American States, are worthy of the highest praise. There is no doubt that the information which he has collected, and has been for some time engaged in laying before his countrymen, on this subject, though in some respects imperfect and erroneous, as was unavoidable, is yet by far the most accurate and full that was ever given to the public by a European.

‡ Jean Baptiste Bourguignon d'Anville, geographer to the king of France, was born in 1697. He was one of the most diligent and enthusiastic geographers that ever lived. He is said to have laboured *eleven hours a day, for fifty years*, to improve this favou-

gium. The more recent works, of a similar kind, by Gosselin of France, and by Rennel of Great Britain, also do honour to their authors, and to the age. Nor ought the service rendered to the science of ancient geography by Mr. Jacob Bryant to be forgotten, or lightly esteemed.

In few respects has the last century displayed greater improvement than in the number, accuracy, and elegance of its *Maps*. The maps of M. de Lisle* were early and extensively celebrated. Since that time the maps of Cassini†, d'Anville, la Rochette, Robert, Wells, Sottzman, Rennel, Arrowsmith, and many others, are entitled to honourable distinction. At the beginning of the period under review, there was scarcely a map in existence of any part of the American continent that deserved the name. Since that time almost every known part, and especially the United States, have been delineated with accuracy and neatness. No *general* map of the United States, that can be called *correct*, has yet been published. That of Arrowsmith is the best, and is highly respectable. But good maps of most of the individual states have been presented to the public. Of these the following is an imper-

rite science. He died in January 1782. The extent and value of his labours, for the illustration both of modern and ancient geography, are generally known.

* William de Lisle, the great French geographer, was born at Paris in 1675. He was appointed geographer to the king; and was celebrated as one of the greatest map-makers of his day. He died in 1726.

† The map of France by Cassini was begun in 1744, and finished in 1794, in one hundred and eighty-three sheets. This is probably the largest map ever formed by human industry.

fect list:—*New Hampshire*, by Holland; *Vermont*, by Whitelaw; *Rhode Island*, by Harris; *Connecticut*, by Blodget; *Pennsylvania*, by Scull, and by Howell; *Maryland* and *Delaware*, by Griffiths; *Virginia*, by Fry and Jefferson; the country west of the *Alleghany Mountains*, by Hutchins, Imlay, Lewis, and Williamson; *North and South Carolina*, by Mouzon, Purcell, and others; and *Kentucky*, by Barker*. The *Charts* which have been formed in modern times are also distinguished by their excellence, above all preceding specimens. Among these, the *Neptune Orientale* of M. de Mannivilette; the charts of the Atlantic, by Bellin; of the Pacific, by Arrowsmith; of the American coast, by du Barres, Holland, and Malespina; of the Western Isles, by Huddart; of the coasts of Spain, by Tofino; and the numerous charts of detached islands, coasts, harbours, and straits, by Dalrymple; are among the most respectable.

The *Gazetteers*, *Atlases*, and other helps to the acquisition of geographical knowledge, have also become very numerous during the last age. They were not only less common in former periods, but, in fact, little known, and of small comparative value. Their introduction into popular use is a peculiarity of the eighteenth century. The authors and compilers of these are so generally known, that it is unnecessary to enumerate them. Those

* To this list may now be added a large and elegant Map of the state of New York, published in 1803, by Simeon de Witt, esq., surveyor-general. This map does its author great honour: and is, probably, the best delineation that has yet been given of any part of our country.

of Crutwell, Scott, and the rev. Dr. Morse, are among the latest and best in our language.

Unprecedented pains have been taken, during the period under consideration, to collect into regular series of volumes those accounts of *voyages* and *travels* which might serve to give a connected view of the condition of the globe, and of the activity and adventures of distinguished men in exploring distant countries. The collections of this nature formed by Harris, Campbell, Churchill, Salmon, Guthrie, Hawkesworth, and Dalrymple, of Great Britain; by des Brosses, of France; by Estala, of Spain; and many others; hold an important rank among the instructive and amusing productions of the age.

The discoveries and improvements above stated, beside correcting and enlarging our geographical knowledge, have also led to many and important additions to the stock of *general science*. There is scarcely any part of natural philosophy, or natural history, which has not received considerable improvement from this source. New light has been thereby shed on the doctrines of the *tides* and the *winds*: the nature and laws of *magnetic variation* have been better understood; the sciences of *zoölogy*, *botany*, and *mineralogy*, have been greatly extended and advanced; immense collections of natural *curiosities* have been made from every known region of the earth; and, what is by no means of least importance, opportunities have been afforded of studying *human nature* in a great variety of

forms, of making rich collections from the vocabularies of different *languages*, of comparing *habits* and *customs*, of investigating the *records* and *traditions* of nations scarcely at all known before; and thus of acquiring rich materials toward completing the natural and civil history of man.

Strange as it may appear, our knowledge of *Antiquities*, principally by means of geographical discoveries, and the inquiries naturally flowing from them, has become incomparably greater than was ever before possessed by man. “When the *Egyptians*,” says a modern eloquent writer, “called the *Greeks children in Antiquities*, we may well call them children; and so we may call all those nations which were able to trace the progress of society only within their own limits. But now the great map of mankind is unrolled at once, and there is no state or gradation of barbarism, and no mode of refinement, which we have not at the same moment under our view: the very different civility of Europe and of China; the barbarism of Persia and Abyssinia; the erratic manners of Tartary and of Arabia; the savage state of North America, and of New Zealand; are all spread before us: we have employed philosophy to judge on manners, and from manners we have drawn new resources for philosophy*.”

Geographical discoveries have led to an unprecedented degree of *intercourse among men*. Though this remark is connected with the subject of the last paragraph, it deserves separate consideration.

* See Burke's *Letter to Robertson*, in professor Stewart's *Account of the Life and Writings* of that historian.

Toward the close of the seventeenth century, the intercourse between distant nations of the earth was greater than it had been at any former period, and was considered highly honourable to human enterprise: but since that period it has been increased to a wonderful degree; insomuch that at the present time the inhabitants of the remotest countries have seen and know more of each other, than those, in many cases, who resided comparatively in the same neighbourhood a hundred years ago.

Great advantages to *Commerce* have also arisen from the geographical discoveries above recited. The extension of the trade for *furs* to the north-west coast of America, is one important and beneficial event of this nature. This article of commerce was rapidly becoming more scarce in those parts of the world from which traders had before obtained it: it was, therefore, a most seasonable and interesting discovery to make them acquainted with a coast on which they might be supplied with the greatest abundance, and which is likely to furnish an inexhaustible store for ages to come. To this signal commercial advantage might be added many others, were it expedient to enlarge on the subject. It would be improper, however, to omit taking notice, that the numerous groups of Islands, lately discovered in the Pacific Ocean, have risen to unexpected importance, and promise to be of still greater utility. These Islands afford very convenient victualling and watering places for ships; and if the civilised nations who visit them were as industrious and successful in introducing among

them the blessings of literary, moral, and religious knowledge, and the arts of cultivated life, as in initiating them into the vices which corrupt and degrade, we might expect soon to see them become the happy seats of literature, science, arts, and pure Christianity, and, in time, reflecting rich blessings on their benefactors.

The enlargement of geographical knowledge during the last century has led to an *increase of the comforts and elegancies of life*, in almost every part of the civilised world. By this the productions of every climate have become known and enjoyed in every other; the inventions and improvements of one country have been communicated to the most distant regions; and the comforts of life, and the refinement of luxury, have gained a degree of prevalence among mankind greatly beyond all former precedent. Never, assuredly, in any former age, were so many of the natural productions, and the manufactures of different countries enjoyed by so large a portion of the human race, as at the close of the eighteenth century.

Finally, the geographical discoveries of the last age have contributed to *illustrate and confirm Revelation*. The discoveries of Behring and Cook were before mentioned as throwing light on the population of the New World, and thus tending to support the sacred history. But, beside these, the knowledge of the manners, customs, and traditions of different nations, especially of those on the Eastern Continent, gained by modern voyagers and travellers, has served to illustrate the meaning, and unfold the beauty of many passages of scrip-

ture, before obscure, if not unintelligible; and has furnished abundant and striking evidence in support of the Mosaic account of the common origin, the character, the dispersion, and the subsequent history of mankind *.

* It is intended to illustrate this point more fully in a subsequent part of this work.

CHAPTER VI.

MATHEMATICS.

THE seventeenth century was the “golden age” of mathematical science. Never, since the revival of learning, has this branch of knowledge been cultivated with such brilliant success as during that period. The grand inventions of *Logarithms*, by Napier, and of *Fluxions*, by Newton, together with the numerous discoveries and improvements of des Cartes, Huygens, Kepler, Gregory, Leibnitz, and many others, must ever render the age of those great men a distinguished æra in the annals of mathematics. It is even possible that the grand discoveries of these philosophers, and the unusual lustre of their characters, may have contributed, by an influence far from being unnatural, to repress the ambition and discourage the exertions of some who came after them. But, although the eighteenth century can boast of no discoveries so splendid, nor of any advances so honourable, as belong to the preceding, yet it produced both, in a sufficient degree to secure a reputable place in the history of this sublime science.

Though the *Fluxionary Analysis* had been invented by Newton thirty years before, yet that great mathematician first published his new doctrine on this subject in 1704. The controversy in which he became involved with Leibnitz, in con-

sequence of this publication, is well known to have been one of the most curious and interesting of the age *. It seems to have been long and generally agreed, that the credit of this celebrated invention is due to the illustrious British philosopher; and, of course, that the claim of his German rival was unfounded †.

Within the period under consideration, several new and valuable branches of mathematics, now in use, have been either wholly discovered, or placed on a footing, in a great measure, if not entirely,

* Soon after Newton published his doctrine of *Fluxions*, his book was reviewed in the *Acta Eruditorum* of Leipsic. In the course of this review, an intimation was given that he had borrowed from Leibnitz, and that the honour of the invention properly belonged to the latter. Dr. Keill, professor of astronomy in the University of Oxford, undertook the defence of his countryman. After a number of controversial papers had been exchanged on the subject, Leibnitz complained to the Royal Society of injustice on the part of Newton and his friends. The Society appointed a committee of its members to investigate the questions in dispute; who, after examining all the letters and other papers relating to it, decided in favour of Newton and Keill. These papers were published in 1712, under the title of *Commercium Epistolicum*. Svo.

† In the eloquent and comprehensive *Eulogium* upon Dr. David Rittenhouse, the late president of the American Philosophical Society, pronounced by Dr. Rush, at the request of the Society, there is the following passage: "It was during the residence of our ingenious philosopher with his father in the country, that he became acquainted with the science of *Fluxions*, of which sublime invention he believed himself for a while to be the author; nor did he know, for some years afterward, that a contest had been carried on between sir Isaac Newton and Leibnitz, for the honour of that great and useful discovery. What a mind was here! Without literary friends or society, and but two or three books, he became, before he had reached his four and twentieth year, the rival of the two greatest mathematicians in Europe."

new. It will be proper briefly to mention some of the more important of these.

In 1717 Dr. Brooke Taylor invented a new branch of analysis, which he called the *Method of Increments*, in which a calculus is founded on the properties of the successive values of variable quantities, and their differences or increments. This method is nearly allied to Newton's doctrine of *Fluxions*, and arises out of it; insomuch, that many of the rules formed for one, serve also, with little variation, for the other. By means of the Method of Increments, many curious and useful problems are easily solved, which scarcely admit of a solution in any other way. It is, particularly, of great use in finding any term of a proposed series, and also in finding the sums of a given series. In 1763 an ingenious and instructive treatise on this new method was published by Mr. Emerson, who threw further light upon it. The *Differential Method* of Mr. Stirling, which he applied to the summation and interpolation of series, is also of the same nature with the Method of Increments, but not so general and extensive.

In 1724 M. Lagny, of France, discovered a new mode of measuring angles, which he denominated *Goniometry*; by means of which he was enabled to ascertain the measure of angles, without the use of either scales or tables, and with great exactness: but this method, though very ingenious, has not been found to be applicable to any purposes of practical utility.

In 1746 the rev. Dr. Stewart, of Scotland, published new and elegant *Theorems*, of great value to the mathematician, by which he extended the ap-

plication of geometry to many problems, to the solution of which the Algebraic Calculus had been alone supposed adequate.

About the year 1758 the invention of a new branch of the analytic art, under the name of the *Residual Analysis*, was published by Mr. Landen, of Great Britain. By means of this new operation, he enabled the mathematician to solve a variety of problems, to which the method of fluxions had usually been applied, in a way entirely original, and by a process apparently more simple and natural than formerly. He applied this method to drawing tangents, and finding the properties of curve lines, and to the solution of many curious and difficult problems, both in mechanics and physics.

The invention of the *Antecedental Calculus*, a new method of geometrical reasoning, first published in 1793, by James Glenie, esq., of North Britain, also deserves some notice. This is a branch of general geometrical proportion, or universal comparison, derived from an examination of the antecedents of ratios, having consequents, and a standard of comparison given, in the various degrees of augmentation and diminution which they undergo by composition and decomposition. This method proceeds without any consideration of motion or of time; and is, in the opinion of the inventor, applicable to every purpose to which the celebrated doctrine of fluxions has been, or can be, applied.

The doctrines of *Tontines*, *Annuities*, and *Reversionary Payments*, were first reduced to system, and brought into use in the eighteenth century. Dr. Halley, of Great Britain, and de Moivre, a native of France, but resident in England, were

among the earliest cultivators of this department of mathematical science. It was afterwards much improved and extended by the successive labours of Simpson, Price, Dodson, Morgan, and Maseres, of Great Britain; by Deparcieux, of France; and by many others, in various parts of Europe.

About the middle of the century under review, and for some years afterwards, flourished the celebrated Euler, a native of Switzerland, and one of the greatest mathematicians, and most excellent men of the age in which he lived. He invented many new formulæ for the sines, cosines, &c., and carried to a greater degree of perfection the *Integral Calculus*; he also did much to elucidate the theory of the more remarkable *Curves*; and contributed greatly to simplify and extend the whole system of *Analytical operations*. In short, he may be said to have thrown new light upon almost every part of mathematical science*.

Beside those branches of mathematics which are

* Leonard Euler was born at Basil, in 1707, and died in 1783, in the 76th year of his age. The mathematical genius and erudition of this man were truly wonderful. No individual of the eighteenth century can be compared to him for the number and value of the discoveries which he made in this branch of science, and for the improvements of which he was the author. His publications are numerous; and there is scarcely a department of mathematics on which he has not thrown some new light, or to which he has not made some important additions. On every subject which he undertook to investigate, he displayed a vigour, a penetration, and a comprehensiveness of mind, which entitle him to a place in the first rank of philosophers. Euler was not less distinguished for the excellence of his moral and religious, than for the greatness of his intellectual character. To singular probity, and great social amiableness, he added the piety of an eminent christian. He was a warm and active friend to religion, fervent in his devotions, and exemplary in his attention to all pub-

entirely the growth of the last age, almost every part of this science has been extended and improved within the same period. Of a few of these some transient notice will be attempted.

Since Newton published an account of his celebrated method of *Fluxions*, this curious part of mathematical science has received new light, and been carried to new degrees of extent, simplicity, and refinement. For these improvements we are indebted to Taylor, Craig, Maclaurin, Emerson, Landen, Simpson, and Waring, of Great Britain; to Clairaut, d'Alembert, Condorcet, de la Croix, and de la Grange*, of France; to Manfredi, of Italy; to Hindenbourg and Arbogast, of Germany; and to none, perhaps, more than to the great Euler, whose work on the *Integral Calculus*, or the *inverse method* of Fluxions, may be considered as holding the first rank on the subject of which it treats.

The principles of *Algebra* have received important additions, and been more satisfactorily displayed during this period, than by the mathematicians of former times. Of this department of mathematical science the most distinguished cultivators were

lic and private duties. If ever he felt indignation against any particular class of men, it was against the enemies of christianity, especially against the apostles of infidelity. He published a valuable work in defence of revelation, at Berlin, in 1747.

* M. la Grange has lately presented to the world a very important work, entitled, the *Theory of Analytical Functions*, in which he is supposed to have shown, that every thing hitherto called *Fluxions*, or the *Differential Calculus* (the phrase chiefly used on the Continent of Europe to express Fluxions), whether according to the method of Newton or Leibnitz, may be reduced to the ordinary calculations of fine quantities.

Stirling, Simpson, and Waring, of Great-Britain ; the Bernoullis, Cramer, and Euler, of Switzerland ; and Clairaut, Bezout, Lagny, de la Grange, and de la Place, of France.

It may be asserted that in almost every branch of what is called *Modern Analysis*, much new light, and many curious refinements have been introduced by the mathematicians of the eighteenth century. In the doctrines of *Series*, of *Increments*, of *Differences*, of *Infinitesimals*, &c., great ingenuity has been successfully employed in modern times. And the application of these to astronomy, and other branches of philosophy, may be considered as forming a grand æra in the history of science. For many of these improvements the public is indebted to several of the mathematicians mentioned in the last paragraph ; to whose names may be added those of baron Maseres, of Great Britain, and of d'Alembert, Vandermonde, and Prony, of France.

The doctrine of *Logarithms* has also been improved in several respects in the course of the last century. New methods of calculating logarithmic tables have been given by Sharpe, Taylor, Jones, Dodson, Reid, the illustrious Dr. Rittenhouse* of America, and last of all by Mr. Bonycastle. Beside the labours of these great mathematicians, the subject of logarithms in general has been more fully and happily illustrated than before, by the several learned works of Leibnitz, Wolfius, Keill, Maclaurin and Simpson.

* See *Transactions of the American Philosophical Society*, vol. iv.

Several of the higher branches of *Geometry*, particularly the doctrines of *Curves*, *Conic Sections*, &c., have been cultivated with great diligence, during the period under review, and carried to higher degrees of precision and refinement than in any preceding age. Among many who are entitled to much honour for their contributions to this class of modern improvements, it will be proper to select Clairaut, l'Hospital, Maclaurin, Emerson, Cramer, Hamilton, Euler, Robertson, and Walker. To attempt an enumeration even of the principal improvements which these, and many other illustrious mathematicians, have conferred on this branch of the science, would be to travel far beyond the necessary limits of this chapter. The improved state of *Algebra*, and of the *Fluxionary* calculus, and the progress which has been made within a few years past, in the subtleties of *Analysis* in general, have brought the more sublime parts of geometry more within the reach of ordinary capacities, and by their means greatly multiplied the cultivators of this department of mathematical science.

But, beside this, even those branches of mathematics in which no great discoveries have been made, and upon which no signal light has been thrown within the last age, have yet received improvements of a less interesting and brilliant kind. Former discoveries have been extended; old doctrines have been simplified and refined; neater, shorter, and more lucid ways of arriving at the same results have been devised; perspicuous, elegant, and comprehensive theorems have taken the place of those which were more prolix and obscure;

and many subtleties and refinements suggested by the mathematicians of the preceding age, but not sufficiently developed by them, have been clearly and satisfactorily unfolded.

It is also worthy of notice, that in addition to all the improvements which have taken place in mathematical science, as such, it has been applied to many objects, during the last age, to the illustration and accomplishment of which it had never before been directed. A great number of difficult and very interesting problems in astronomy have been resolved by the *Analytic Method*, first applied to this subject by Euler. His calculations, by this method, of the perturbations of the earth's orbit, and of the theory of the moon, may be regarded as models of simplicity and beauty. The same illustrious mathematician also first introduced analysis into the doctrines of the *motion of fluids*; and by this means threw great light on the principles and laws of hydraulics. Mr. Æpinus, of Petersburg, before mentioned, has made an ingenious attempt to reduce the mysterious phenomena of *Electricity* and *Magnetism* to the regularity of algebraical calculation. M. de Lisle, of France, has endeavoured, with no small degree of success, to form a new system of *Mineralogical Characters*, on the principles of geometry; and M. Haüy, of the same country, has given a very elaborate and plausible system of doctrines on *Crystallisation*, which all proceed upon fixed mathematical rules.

To this chapter belongs some notice of the attempts which were made, during the period under

consideration, to fix on a universal and uniform *Standard of Measure*. Such a standard has been considered a grand desideratum, ever since men began to speculate on subjects of this nature; but probably in no former period was it ever an object of so much attention, and of such diligent research, as in that which we are now reviewing. And though none of the attempts to obtain a standard of this kind have been attended with complete success, yet several of them were so ingenious, and engaged so much of the inquiry of scientific men, that they ought not to be passed in silence.

Huygens, the celebrated Dutch astronomer, about the middle of the seventeenth century, seems to have first proposed the length of a *Pendulum* vibrating in a given time, as a standard of measure. He proposed to take a pendulum that should vibrate seconds, to measure it from the point of suspension to the point of oscillation, and to assume the third part of such a pendulum, under the denomination of a *horary foot*, as a standard to which the measure of all other feet might be referred. In 1779, Mr. Hatton, of Great Britain, undertook to improve on the principle of Huygens, by applying a moveable point of suspension to one pendulum, so as to produce the same effect that would result from the use of two pendulums, the difference of the lengths of which was the intended measure*. Mr. Whitehurst con-

* The inaccuracy to which a standard of measure derived from the common pendulum is liable, arises from the difficulty of

siderably improved upon this idea, in his tract on the subject, published in 1787*. His plan is to obtain a measure of the greatest length that conveniency will permit, from two pendulums, of which the vibrations are in the ratio of 2 to 1, and the lengths coincide with the English standard in whole numbers. A further improvement in the mode of employing this instrument as a standard of measure is, to make use of a pendulum without a bob, or a uniform cylindrical rod, which, in a given latitude, at a certain height above the surface of the ocean, and at a certain temperature, shall vibrate in a given time. The use of a pendulum of this kind, it is believed, was first proposed by Mr. Jefferson, now president of the United States, in his report to Congress, on the subject of weights and measures, while secretary of state, soon after the establishment of the federal government†. It is supposed that this last-mentioned standard is preferable, both in simplicity and accuracy, to all others.

measuring the precise distance between the real point of suspension, and the centre of oscillation of the pendulum.

To obviate this difficulty, Mr. Hatton, and after him, still more successfully, Mr. Whitehurst, devised their improvements. Since the publication of Mr. Whitehurst, sir George Shuckburgh Evelyn, assuming his principles, and pursuing his path, has made further experiments, which throw new light on the subject.—See *Philos. Trans.* 1798, p. 174.

* *An Attempt towards obtaining invariable Measures of Length, Capacity, and Weight, from the Mensuration of Time.*

† Mr. Jefferson does not claim the merit of this invention; it was communicated to him by Mr. Robert Leslie, an ingenious watch-maker of Philadelphia.

The attempt made in France, within a few years past, to form a standard of length, weight, and capacity, by measuring a certain number of degrees on a great circle of the earth, is generally known*. This plan is considered, by good judges, as having some important advantages; though in simplicity and practicability it is certainly inferior to the one last mentioned.

The last century is also eminently distinguished for the production of various kinds of *Tables*, which are of the utmost importance to the mathematician, particularly in giving facility and precision to his calculations. Such of these as pertain immediately to astronomy were mentioned in a former chapter. Beside these may be enumerated the tables of *Logarithms*, of *Sines* and *Tangents*, of *Difference of Latitude and Departure*, of *Meridional Points*, of *Loxodromic* or *Rhumb Lines*, all of which, and many more, have been brought to a degree of perfection, during this period, which was never before known. The tables more particularly entitled to honourable

* The method adopted by the French Institute for obtaining an invariable standard of measure is, to assume a certain portion of the whole circumference of the earth. For this purpose they actually measured, on a great circle of the earth, the distance between *Dunkirk* and *Barcelona*. The portion of the meridian from *Dunkirk* to *Rodez* was measured by Delambre; and that from *Rodez* to *Barcelona*, by Mechain. From this measurement the length of the whole meridian was easily calculated; after which a certain portion of the whole circle (a *forty-millionth*) was fixed upon as the standard of measure. This standard the French call the *Metre*, which is about equal to 39.371 English inches.

mention are those of Sherwin, Sharpe, Gardner, and Taylor, of Great Britain; of Vega, of Germany; and of Callet, and de Lalande, of France.

To give an account, in detail, of the various inventions and improvements which have taken place with respect to *Mathematical Instruments*, during the last age, would exceed the limits assigned to the present review. Some of these have been already mentioned in another place; and many more will readily occur to every reader, whose mind is conversant with objects of this nature. It is sufficient to say that they are numerous and important. The accuracy of construction, the elegance of workmanship, and the ease and expedition of manufacture which modern artists have attained, are equally wonderful, and honourable to the century under consideration.

The science of mathematics has been but little cultivated in the United States during the period under review. They, indeed, have been by no means deficient in the production of mathematical genius; but the state of society, and the particular situation of most of those who might have distinguished themselves in this department of knowledge, have prevented that devotedness to the higher branches of mathematics which is necessary to the attainment of excellence, or to accomplish improvements. Still, however, some small productions of this kind, occasionally laid before the public in the *Transactions* of their learned societies, afford a very respectable specimen of

the talents and erudition of the people of America, and hold up to view several names with distinguished honour *.

* The first volume on the higher branches of the mathematics ever presented to the public by a native American made its appearance in the course of the year 1802, under the title of *Essays Mathematical and Physical*, by Jared Mansfield, of New Haven, Connecticut. This writer displays a degree of mathematical genius and erudition which does honour to himself and his country.

CHAPTER VII.

NAVIGATION.

NAVIGATION, considered both as an art and a science, was greatly advanced during the late century. This advancement was owing to a variety of circumstances, which are worthy of being transiently noticed in the present sketch.

The *Construction of Ships* has received very considerable improvements in modern times. That method of building which is favourable to *rapid sailing* has been, for a number of years, gaining ground, in place of the old method, in which *capacity* was chiefly consulted. New and advantageous plans of *rigging* vessels have been adopted, and better modes of working them than were formerly in use. In the science of naval architecture, and of navigation generally, perhaps no individual has done more to useful purpose than Euler, of whose ingenious and excellent labours, in several departments of science, we have had frequent occasion to speak. In consequence of his celebrated publications on this subject, the mathematicians of France were incited to study the theory of ship-building, by which means nautical science in that country made remarkable progress. A taste for the same species of inquiry afterward began to grow in Great Britain; and, under the auspices of the government of that country, and various public societies, has since produced many important improvements.

In estimating the revolutions which took place in naval architecture in the course of the last age, perhaps few are more signal than the great increase in the *dimensions* of ships of the same rate. Ships of war, in particular, are now generally a fourth, and, in many cases, a third larger than vessels of the same number of guns were at the beginning of the late century*. In this augmentation the naval architects of France took the lead, and have gone the greatest lengths; the British followed their example, and have carried every thing which relates to the construction and management of ships to a great degree of perfection.

While modern ships are larger than the ancient, they are at the same time more light and simple in their structure. The cumbrous and useless ornaments, which the false and unphilosophical taste of preceding ages employed, have been laid aside; and, in general, those principles of architecture adopted, which combine the advantage of easy management with the greatest burden.

The *Mariner's Compass*, though it has been in use for several centuries, was attended with great imperfections and inconveniencies until a few years ago, when Dr. Gawin Knight, of Great Britain, in consequence of his invention of *Artificial Magnets*, was enabled considerably to improve this inestimable instrument. The compasses made by him were found to exceed, in regularity and exactness, all those which had been constructed before his time. After him further improvements

* See *Additional Notes*. (G. G.).

of importance were made by Mr. Smeaton, and Mr. McCulloch. The complete *Azimuth Compass* is one of the most valuable presents which modern genius has made to navigators.

The compass is scarcely of more importance to the mariner, than the celebrated invention of the *Quadrant*, commonly ascribed to Mr. Hadley, of Great Britain, but of which the honour really belongs to Mr. Godfrey, a philosophic artist of Philadelphia. To which may be added the numerous improvements of this instrument, some of which were mentioned in another place; to say nothing of many others, under the names of *Sextants*, *Octants*, &c., constructed on like principles, and for similar purposes.

Almost all the methods now in use for finding the *Longitude*, whether by means of *Lunar Observations*, the position of *Jupiter's Satellites*, or of well-constructed *Time-keepers*, were first brought into general use during the last century. The rise, progress, and authors of these several discoveries and improvements were briefly detailed in a former chapter. The important place which they hold in the annals of navigation is too generally understood to require formal elucidation.

The invention of *Ephemerides*, or *Nautical Almanacs*, is another important event which belongs to the century under review. They were first published for the use of mariners by M. de la Caille, about the year 1755. Dr. Maskelyne, in England, followed his example, and first published them in that country, about the year 1767. The effects of these almanacs in advancing the art of navigation are well known. Their influence

in promoting the *Lunar* method of finding the longitude is worthy of particular remark. The extreme facility with which that operation, formerly so tedious and difficult, is now performed, even by common seamen, deserves to be noticed as a distinction of the age under consideration.

The great augmentation in the number of *Maps* and *Charts*, and the manifest improvements in their construction, accuracy, and elegance, may also be mentioned among the circumstances, which have contributed to the advancement of navigation in modern times. The degree in which these improvements have promoted the safety, the comfort, and the expedition of late voyages, is scarcely within the reach of ordinary calculation.

But there are few modern improvements in the art of navigation more gratifying to humanity than the remarkable and very successful attention to the *Health of Seamen*, which characterises the conductors of late voyages. The names of those who distinguished themselves by devising and bringing into use the most approved methods for promoting this end were respectfully mentioned in a preceding division of this work. The great contrast which the history of ancient and modern voyages presents, with respect to the comparative destruction of the health and lives of mariners which they produced, cannot but forcibly arrest the attention of every reader, and exceedingly gratify the benevolent mind. Beside the improvements in diet and regimen on shipboard, to which modern science and humanity have given rise, and which have contributed greatly to preserve the health of seamen, the introduction of *Ventilators* into ships also deserves

to be mentioned as an important mean of promoting the same object, and, at the same time, for preserving the timber and cargoes of vessels *. To these may be added some notice of the modern improved methods of constructing *Pumps*, and other hydraulic machinery of ships, by which the safety and comfort of navigators are greatly secured.

In addition to the improvements which have been mentioned, some notice might be taken of the various plans for promoting *Submarine Navigation*, which have been laid before the public at different times, and by different persons, in the course of the last age; of the attempts to construct *Life-boats*, for the safety of mariners in case of extremity; of the improved methods which have been invented for facilitating the guidance of ships on the ocean, and for measuring their progress. But to give an intelligible enumeration of these and of many other modern improvements in navigation would lead to a minuteness of detail inconsistent with the plan of the present sketch.

Beside many ingenious individuals to whom mariners are indebted for patronising and aiding their art, much is also due to some learned and other *societies*, for their useful exertions to promote the same end. But perhaps to no public bodies will the annals of modern navigation be found to ascribe more than to the *Board of Longitude* and the *Board of Admiralty* of Great Britain.

* For the invention of one of the most complete and useful plans for ventilating ships, we are indebted to the ingenious Mr. Wynkoop, of Philadelphia, whose contrivance for this purpose has received high praise from those who are most competent to judge of its merits.

From the concurring influence of all the considerations above stated, enterprising men have learned, within the eighteenth century, to traverse the most distant seas, with a degree of ease, confidence, and expedition, wholly unknown in any former age. A voyage from Europe or America to India, is now performed in half the time that it cost a hundred years ago; and even a voyage round the world is considered at present as an undertaking scarcely more formidable than a voyage from America to Europe at the beginning of the century in question.

But few things distinguish the eighteenth century more than the extension and the improvements of the system of *Inland Navigation*. Canals, for the conveyance of small vessels through districts of country not favoured with rivers adequate to the purpose, have been more or less in use for many ages. But, during the last age, the number of these canals has been astonishingly multiplied; various improvements in the construction of them have been adopted; and they have been an incalculable source of convenience, comfort, and wealth.

Very early in the eighteenth century the cutting canals in the empire of Russia was undertaken by command of Peter the Great, and prosecuted on a scale of wonderful extent. That celebrated monarch was led to this undertaking by observing the great utility of canals in Holland, by means of which a low and marshy tract of country was converted into a rich, populous, and fruitful territory. Though the emperor did not live to see the completion of his plans, yet, under his auspices,

they were carried on to a considerable length, and continued with great zeal by his successors, especially by the late empress; insomuch that there is, probably, “no part of the world where inland navigation is carried through such an extent of country as in Russia; it being possible, in that empire, to convey goods by water *four thousand four hundred and seventy-two miles*, from the frontiers of China to Petersburg, with an interruption of only sixty-six miles; and from Astracan to the same capital, through a space of *one thousand four hundred and thirty-four miles*, a tract of inland navigation almost equal to one fourth of the circumference of the earth*!” The number of vessels employed on the different canals of Russia, and the amount of merchandise, of various kinds, for which they furnish means of transportation, almost exceed the bounds of credibility.

Since the undertaking of the Russian emperor, similar improvements have been projected and executed in Sweden, Denmark, France, and Spain; from which very important advantages have resulted to those several countries, and from which many more, by due attention, might be produced. The first navigable canal cut in Great Britain was that undertaken by the duke of Bridgwater, and completed, at his expense, in 1759, for the purpose of forming a communication between his coal works, at Worsley, and the city of Manchester. This work was planned and executed by Mr. James Brindley, an engineer of singular talents, and the author of the present most approved sys-

* See Phillips's *History of Inland Navigation*, 4to, chap. iii.

tem of canal navigation *. His great and original genius, the force of mind which he displayed in surmounting the difficulties which were presented in his course, and the various improvements which he suggested in the formation and management of canals, have been, very deservedly, the subjects of much eulogy by every succeeding artist. After Mr. Brindley's first successful attempt, canals became popular in Great Britain and Ireland, and a considerable number, some of them on a very large scale, were undertaken in different parts of those countries. Brindley, who died in 1772, was succeeded by Mr. Smeaton, Mr. Whitworth, Mr. Watt, and others, who eminently distinguished themselves as engineers in the same line.

Attempts of a similar kind have been made in the United States, but neither on so large a scale, nor hitherto with so much success as in Europe. The trials, however, which have been made in the States of Connecticut, New York, Virginia, and South Carolina, bid fair to be highly useful, and to afford an honourable specimen of American enterprise. In several of the other States plans of the same kind have been formed, and partly executed; and there is every probability that a few years more will present us with a large amount of this species of improvement in many parts of that country.

* James Brindley, the celebrated engineer, was born in Derbyshire, in the year 1716. He early devoted himself to mechanical pursuits, and was bred a mill-wright. His astonishing enterprise, and useful improvements in the formation of *aqueducts, canals, &c.*, are generally known, and will long do honour to his memory. He died in 1772, in the fifty-sixth year of his age.

CHAPTER VIII.

AGRICULTURE.

NO art is of more ancient date than this. It employed our first parents in Paradise; and has been more or less an object of pursuit in all ages. Like almost every other object of human attention, however, it has undergone numberless revolutions of decline and revival, in different periods, and among different nations. In Egypt, in Palestine, in Greece, in Persia, and in the Roman empire, this art successively rose into importance, flourished under various wise encouragements, and gradually declined with the learning, taste, and industry of the respective countries. From the time of Constantine the Great, to the beginning of the seventeenth century, the annals of agriculture furnish little worthy of attention. About the latter period, in consequence of many laudable efforts made by men of influence, and the publication of several valuable works on the subject, this art began to revive in France, and in Flanders. The inhabitants of those countries endeavoured for a considerable time to conceal the means which they used for improving and increasing the productiveness of their lands. Whoever, therefore, became desirous of receiving instruction in their method of husbandry, was under the necessity of visiting their country, and observing for himself. We are told

that the French, at this period, were in the habit of using nine different sorts of manure ; but of the nature of each we are not informed. It is also said that they were the first people among the moderns, who ploughed in green crops, for the sake of fertilizing the soil ; and who confined sheep in sheds at night, for the purpose of increasing the amount of their compost manure*.

Agriculture next revived in Great Britain. To this, there is reason to believe, the writings of sir Hugh Platt very much contributed. He discovered, or brought into use, many new kinds of manure, and, perhaps, contributed more to the improvement of the art of cultivating the earth, than any other individual of the age in which he lived. He was succeeded by Hartlib, a writer much esteemed in his day, but by no means equal to his predecessor. The exertions of these men, and others of less note, together with the peculiar circumstances of the nation, prompted persons of the greatest influence to encourage agriculture, to regard it as the most certain and productive source of wealth to their country; impoverished by preceding wars, and to promote its improvements with zeal. But this flourishing era of husbandry was of short continuance. At the Restoration, the country gentlemen relapsed into negligence and dissipation; surrendered the rural honours which they had before sought with so much eagerness, and left them to be pursued by the least enlightened part of the community.

Happily, however, this decline, like the preced-

* See *Encyclopædia*, art. *Agriculture*.

ing revival, was also of short duration. Mr. Evelyn was the first writer by whom his countrymen became again inspired with just sentiments on this subject; and by whose exertions agriculture was enabled, once more, to claim its former dignity. Indeed, after the peace of Aix la Chapelle, in 1748, most of the nations of Europe, by a kind of tacit consent, applied themselves to the study of this art, which has been, from that period to the present, gradually increasing in extent and importance, and assuming more of the regular and consistent aspect of a science.

In the course of the last fifty years many capital and most useful improvements have been introduced into agriculture. Individuals of wealth and taste, and learned societies have embarked in plans for its encouragement, with a degree of enlightened zeal which was never before displayed. Many ingenious and judicious publications have suggested new plans and objects of cultivation, have diffused a knowledge of well directed experiments and observations, and have excited a general spirit of emulation in pursuing this kind of improvement. Philosophers, in this century, for the first time, have united with the practical cultivators of the earth, in exploring new means of increasing the fertility of the soil, and consequently of increasing the wealth and the comforts of man.

In zeal for agricultural improvements, and in the success with which they have been pursued, during the last age, Great Britain certainly holds the first place. Next to her stands France, and afterward come in succession, Italy, the German empire, &c. In Holland, Spain, Portugal, Turkey,

and Russia, improvements have been few, and slowly advancing. It is true that, even in the last mentioned countries, some efforts have been made, by associations and otherwise, to promote the best methods of cultivating the earth; but various circumstances have hitherto conspired either to weaken these exertions, or render them in a great measure ineffectual. The commercial spirit of Holland has long driven from her view every general plan of agricultural enterprise, and several of the other nations which were mentioned, fixed in inactivity, under the congealing influence of ignorance and slavery, are equally unacquainted with, and indifferent to, the most important and indispensable foundations of public prosperity.

Among the memorable events in the annals of agriculture, pertaining to the 18th century, may be mentioned the mode of tillage invented and proposed about the year 1760, by Mr. Jethro Tull, of Oxfordshire, and usually denominated the *Horse-Hoeing* and *Drill Husbandry*. The objects of his plan are, to turn up, break and pulverize the soil more deeply and thoroughly than by the usual means before employed, and to deposit the grain in the earth in such regular rows as to admit of the *horse-hoeing* cultivation being applied to it in the course of its growth. The introduction of Tull's system is considered as forming a grand era in agriculture, not only on account of its own intrinsic utility, but also because of the numerous improvements to which it indirectly led.

Essential service has been rendered to agriculture by the inquiries of modern philosophers into

the *Physiology of Vegetables*. These inquiries have led to new and important conclusions, respecting the food of plants, and the best means of promoting vegetation. On this subject much valuable information has been communicated to the public by Hales, Hill, Walker, and Darwin, of Great Britain; by du Hamel, des Fontaines, Broussonet, and Hassenfratz, of France; by Ingenhousz, van Humboldt, and Jacquin, of Germany; and by Bonnet and Sennebier, of Geneva.

The eighteenth century is remarkable for the numerous improvements which, in the course of it, have been introduced into agriculture, through the medium of *Chemistry*. Indeed, the modern application of chemical doctrines to the cultivation of the earth, may be considered as forming a grand era in the history of science. In this application of chemical philosophy many persons have distinguished themselves, and rendered important service to agriculture. Among these the earl of Dundonald is entitled to particular notice*. He had the honour of publishing one of the first formal treatises on this subject. He has been followed by many others, who have pursued the inquiry much further, and with great success.

The nature and advantages of particular *Soils* have been, more or less, the objects of inquiry in all ages. But inquiries of this kind, in the course of the eighteenth century, have been more numerous, enlightened and useful, than ever before. A number of philosophers, during this

* See his work on the *Connexion of Agriculture with Chemistry*.

period, have made careful analyses of different soils, and by this means threw much new light on the principles of agriculture. Those who most distinguished themselves by investigations of this nature are Giobert, Bergman, Kirwan, and Parmentier, to say nothing of several others, no less worthy of being respectfully mentioned in the same list.

The last century is also distinguished by the introduction of several new and important *Manures* into general use. Of these it will be proper to take some notice in our rapid course.

The great advantages of *Gypsum* as a manure were discovered in the year 1768, by Mr. Mayer, a respectable German clergyman*. Since that time this substance has been used with much success, not only in Germany, but also in several other parts of Europe, as well as in America; but the manner in which it produces its fertilising effects, notwithstanding the numerous and diligent inquiries which have been made on the subject, is still far from being satisfactorily unfolded.

The efficacy of *Carbon*, or common *Charcoal*, in promoting vegetation, was first ascertained, a few years ago, by M. Hassenfratz, a celebrated French chemist. He found that this substance is an essential ingredient in the food of all vegetables, and that soils are, in general, fertile in proportion to the quantity of it which they contain. The properties and effects of carbon as a manure have been since diligently and successfully examined by various other writers and experimenters on the subject.

* *Transactions of the Royal Irish Academy*, vol. v, p. 196.

The general use of *Marle*, *Lime*, *Chalk*, and various combinations of calcareous matter, as means of increasing the fertility of the soil, is chiefly of modern date. And even with respect to these, and such other manures as were in a degree known and employed in ancient times, the mode of their operation, the best methods of applying them, and the various circumstances which should attend the application, have been incomparably better understood, within a few years past, than in any former period. The most scientific and satisfactory modern writers on manures, in general, are Dundonald, Middleton, Darwin, and Tennant, of Great Britain; Kirwan, of Ireland; Parmentier, of France; Ruckert and von Usler, of Germany; and Eller, Wallerius, and Gyllenborg, of Sweden.

The influence of *Light* on growing vegetables has also been investigated with great success by many modern philosophers. Among these Hales, Priestley, abbé Tessier, Ingenhousz, and Sennebier, are entitled to particular distinction. From the experiments of these philosophers, it appears that this subtle fluid has a powerful effect on the colour of vegetables; that, when exposed to its influence, it enables them to yield pure air; and that it converts many substances, which would otherwise become putrid and offensive, into wholesome food for plants.

The efficacy of *Electricity* in forwarding the germination and growth of plants was discovered and satisfactorily established by the philosophers of the eighteenth century. It was before remarked that Mr. Maimbray, of Edinburgh, was the first who applied electricity to this object. He was followed by the abbé Nollet, Mr. Jallabert, M. Boze, and

several others, who all formed the same conclusions. Still more recently the well devised and indubitable experiments of Messrs. d'Ormoy, Rozier, Carmoy, and Bartholon, all of France, have thrown additional light on the subject, and substantially confirmed the results of preceding experiments.

The influence of various *Factitious Airs* in hastening and retarding the progress of vegetation is a branch of agricultural inquiry peculiar to the eighteenth century. On this subject the successive experiments of Dr. Hales, Dr. Priestley, lord Dundonald, sir Francis Ford, and Dr. Darwin, of Great Britain; of Hassenfratz, and several other French chemists; and of Jacquin, von Uslar, and von Humboldt, of Germany, have furnished very interesting and important information.

Beside the new substances employed for promoting the fertility of soils, and hastening the process of vegetation, the last age is also distinguished by the introduction of a number of new and important objects of culture.

Among these scarcely any is more worthy of attention than the *Potato*. This valuable root, which is generally supposed to have been found originally in North America, was not much cultivated in Europe till the close of the seventeenth century; and even then was chiefly confined to Great Britain and Ireland, and seldom seen except in gardens, as a curiosity. How much it has increased in importance, and in the extent of its cultivation, since that period, both in America and in almost every part of the civilised world, is well known. Instead of being deemed, as it once was, a food fit only for the lower classes of society, it has come

into general and almost indispensable use among all ranks. It has added another to the list of cheap, simple and wholesome articles of nutriment, and furnishes an additional barrier against famine, beyond what our ancestors enjoyed.

It is a curious fact, that this excellent vegetable has been in common use in *North Britain* but a few years. In *France* it has been long known; but was, for many years, expressly proscribed, in consequence of its belonging to the genus *solanum*, a very suspicious family of plants. The revolution in that country, however, has brought it into use, and the prejudices against it are gradually yielding to experience. In many parts of *Germany* prejudices still more inveterate against the use of the potato prevailed. We are told, indeed, that in some parts of that country, until within a few years, the inhabitants would almost consent to starve rather than eat this pleasant and useful vegetable. Count Rumford exerted himself to bring it into favour in *Bavaria*, and at length succeeded. At the close of the eighteenth century it had come into general use in most of the countries of Europe.

No less important is *Maize* or *Indian Corn*, another article, which, as an object of general culture, may be considered as in a great measure peculiar to the century under review. This valuable grain was little cultivated, at the beginning of the century, except in America. Since that time it has not only become an object of more general and uniform attention in the new world, but it has been introduced with success into the South of Europe, and several other temperate climates, where

it was before unknown, and has been constantly gaining ground, both in reputation and utility. The ease with which this species of corn is cultivated, its great productiveness, its exemption from injury by those seasons and insects which destroy other grains, its singularly wholesome and nutritive qualities, and the great variety of excellent preparations of which it is susceptible, render its extended cultivation one of the most distinguished and useful agricultural improvements of the age.

The cultivation of the *Sugar Cane*, in the American islands, though not wholly, is in a great measure an improvement of the eighteenth century. The great importance of this plant, in various points of view, renders the increase of its culture, in any part of the world, an object worthy of particular regard*. Connected with the sugar cane is the *Sugar Maple* of the United States, which has lately grown into an article of consequence. An estimate may be formed of the value of this tree, as a mean of supplying ourselves and other nations with a salutary food, by perusing the various publications which, within a few years past, have been made on the subject, particularly those of Mr. Noble and Dr. Rush. The discovery that sugar of an excellent quality may be extracted in large quantities from the *Beet Root* was made a few years ago, by

* In 1700 the quantity of sugar imported into England amounted only to 481425 *cwt.*; but, in 1790, the consumption of this article, in the same country, had increased to 1487262 *cwt.* The demand for it has been rapidly augmenting through the whole century, and it is now to be found in almost every hovel, the tenant of which has the means of purchasing it. See Ramsay's *Review*, p. 22.

Mr. Achard, of Germany, whose experiments have been considerably aided, and carried to a greater length, by Mr. Noldechen, of the same country.

The introduction of the culture of *Rice* into the United States, to any extent, is one of the honours of the period under consideration. In 1693 a vessel from Madagascar brought some of this grain to Charleston, in South Carolina. The captain gave such a description of it to some of the inhabitants, that they determined to try the cultivation of a vegetable which appeared congenial to their soil. For a number of years they made little progress in it, not properly understanding the nature of the soil, or the means of culture favourable to its growth, and having little prospect of commercial advantage from it, to animate their exertions. But since the restraints and discouragements of colonial servility have been taken off, the cultivation of this grain has become much more extended, not only in South Carolina*, but also in North Carolina and Georgia, and is now to be regarded as a principal staple of those states†.

Cotton was first cultivated in America, to any extent, in the century under review. As it hap-

* The cultivation of *rice* in South Carolina has undergone several revolutions in the course of the last thirteen years. In the year 1790, 87179 tierces of this article were exported from that state. In 1792, 102,235 tierces were exported. Since that time the quantity exported has been, with some variations, generally diminishing. In 1800 the number of tierces amounted only to 64769.

† Attempts have been made, on a small scale, to cultivate *rice* in the state of *Maryland*, and not without success; but the object has not been pursued to any profitable extent. See Bordley's *Husbandry*.

pened with respect to rice, the original introduction of this article was many years prior to its becoming an object of much attention and importance. But the advantages which have accrued particularly to South Carolina and Georgia, within a few years past, from cotton having become a principal object of agriculture in those states, are truly astonishing. It is confidently asserted, that in some parts of those states, the amount of wealth has more than trebled within the last five or six years, from this source alone*.

The cultivation of *Indigo* in America also commenced within the period of the present retrospect. This plant, which is a native of Hindostan, had an American residence first assigned to it in Mexico and the Leeward Islands†. Its introduction into South Carolina took place, it is believed, about the beginning of the eighteenth century, or not long afterwards. But though this vegetable a few years ago held an important place among the objects of culture in that southern country, it has lately engaged much less attention than formerly.

The practice of *naturalizing foreign vegetables*, in different soils, has been practised on a more extensive scale, during the eighteenth century, than in any preceding period. Amidst all the labour and care of the ancients to improve agriculture,

* The progress of the cultivation of *cotton* has been much more remarkable. In 1790, the quantity of cotton exported from South Carolina was 9840 *lbs.*; in 1795, 1109653 *lbs.*; in 1800, 6425863 *lbs.*; and in 1801, 8301997 *lbs.*

For the above information the author is indebted to the politeness of Dr. John Parker Gough, of Charleston.

† Raynal's *History of the East and West Indies*.

they scarcely enjoyed, in any degree, the advantage of witnessing experiments of this nature. Each country was in a great measure confined to its own indigenous productions. This continued, for the most part, to be the case till the beginning of the century under consideration. Since that time the choicest vegetable productions of different climates have been transplanted to other and distant regions; and great advantages to agriculture have arisen from this source*.

The cultivation of *Fruit trees* has become an object of increased attention, and has received many improvements in the course of the last age†. New and delicate modes of propagating fruit trees have been discovered; new and useful methods of improving the flavour, and preserving the soundness of fruit have been adopted; and this branch of husbandry, in general, rendered more important and profitable than formerly. Among many who have distinguished themselves by rendering service to this branch of agriculture, may be mentioned du Hamel, Bradley, Knight, Speechly, Hitt, Wal-

* Among many other instances which might be adduced, it is believed that the *bread-fruit-tree* was never seen either in Europe or America till toward the close of the eighteenth century. The late laudable, and, in a degree, successful exertions of the British government to naturalise this tree in their American islands, are worthy of high praise.

† Cultivated *fruit-gardens* may be considered as chiefly belonging to the eighteenth century. At any rate, the improvements in this department of agriculture, during the century, were great and important. Since the time of the celebrated Philip Miller, who was styled by foreigners, as well as his countrymen, *Hortulanorum Princeps*, many writers on this subject have contributed to the progress of improvement.

ker, and very lately Forsyth, who is said to have improved greatly on the labours of all who had gone before him.

From the increased attention to agriculture and gardening, in the course of the last age, has arisen an important fact, which the friend of human-happiness must contemplate with pleasure, *viz.* a great increase in the use of vegetable food. In the seventeenth century animal food constituted an undue proportion of the nutriment of man. In the eighteenth some progress has been made toward the correction of this error, though this desirable end is yet far from being fully accomplished*.

It would be difficult, in truth, to mention a single principle or practice in agriculture, which has not been more or less improved within the period under consideration. The advantages and defects of particular *soils*; the efficacy of *manures*; the *rotation of crops*; the improvement of the *implements* of husbandry; and the almost infinite variety of inquiries connected with agricultural pursuits, have been investigated with great diligence, and have received much elucidation in the course of the last age. For a great amount of useful information on these subjects, and for multiplied improvements in agriculture generally, the public is indebted to Mr. Miller, Mr. Ellis, Mr. Marshall, Mr. Arthur Young, Dr. Anderson, Mr. Coke, sir

* Sir John Pringle states, on the authority of Mr. Miller, the keeper of the botanic garden at Chelsea, and author of the *Gardener's Dictionary*, that the quantity of vegetables used in and near London, at the time of the Revolution, in 1688, was not more than *one sixth* of what was used in the same place in 1750. See RAY-SAY'S *Review*.

John Sinclair, and many others, of Great Britain; and to Messrs. du Hamel, Chateauvieux, Tourbilly, Rozier, Tessier, Broussonet, Tillet, and Parmentier, of France; beside others, entitled to notice, in different parts of Europe.

Probably the most complete and scientific work on this subject now in possession of the public, is *Phytologia*, or the *Philosophy of Agriculture and Gardening*, by Dr. Darwin. In this work the learned and ingenious author has introduced a great amount of curious information, and of judicious principles and precepts; but its value is, doubtless, diminished by the whimsical opinions, on a variety of subjects, which he so frequently displays. Perhaps the fault most worthy of notice is, the ridiculous extreme to which the author presses the analogy between the animal and vegetable tribes, and the principles of vegetation thence deduced. In a poem this would be excusable; hence the *Loves of the Plants* may be defended; but in a sober, didactic, philosophical work, it is much better calculated to amuse than to instruct.

While the principles of tillage have been better understood, and the knowledge of them more extensively diffused within a few years, numerous and very important improvements have taken place in the art of selecting and rearing *cattle*, and other animals which fall under the care of the husbandman. The attention paid to the breed, health, growth, and general œconomy of the various kind of stock, within the last half century, in many parts of Europe, and particularly in Great

Britain, has not only been greater than ever before, but has also been crowned with a degree of success which would once have been thought scarcely possible. Among those who have distinguished themselves by their successful attention to the breeding of cattle, particularly to the ascertaining those circumstances which affect the growth, size, strength, beauty, &c. of cattle, Mr. Bakewell, of Great Britain, has particularly distinguished himself. The munificent encouragement given to improvements of this kind by the late duke of Bedford and lord Somerville are also worthy of particular notice in sketching the agricultural progress of the last age.

Connected with the improvements in the rearing of cattle above stated are the new articles of *Proxender* for cattle, which have been added, within the last half century, to those formerly in use. For this addition mankind are, probably, indebted to none more than to Linnæus, and his disciples in Sweden, the abbé Tessier, of France, and Dr. Anderson, of Great Britain, whose writings on the subject are among the most learned, judicious, and useful extant.

Beside the writings of individual authors on agriculture, and the various subjects connected with it, many facts, discoveries, and improvements have been recorded and laid before the public, in the Transactions of numerous agricultural *Societies*, formed in almost every part of Europe, and in America. These associations have proposed questions to be brought to the test of experiment and discussion; have offered premiums and honours

for encouraging the necessary inquiries; have invited free communications from all classes of citizens; and by these means have brought to light many instructive facts and doctrines, which the exertions of detached individuals could scarcely have developed. It is, doubtless, to the influence of these associations that we are to ascribe much of that preeminence in agriculture over all other ages, which the eighteenth century claims.

The improvements which have taken place in the agriculture of the United States, during the last twenty or thirty years, are very great. Their farmers, it is true, are far from having kept pace with their European brethren in enterprise, and the adoption of new and profitable modes of cultivation. Many of them obstinately adhere to practices which have been completely exploded; and neglect others that are better, though recommended by the fullest experience. But if much remain to be done, much has also been performed towards the correction of this evil. Within a few years past, societies for the promotion of agriculture have been formed in all the principal States in the Union; gentlemen of learning, observation, and property, have zealously embarked in this interesting cause; the adoption of transatlantic improvements is gradually becoming more common; and the aspect of a large portion of the country indicates a considerable increase of enterprise and of taste in husbandry. The number of Americans, however, who have contributed to the advancement of agriculture by their writings is small. Among these may be mentioned chancellor Li-

vingston, professor Mitchill, and several other gentlemen, whose valuable communications appear in the Transactions of the Agricultural Society of New York; judge Peters*, and Dr. Logan†, of Pennsylvania; and Mr. Bordley‡, of Maryland.

* *Agricultural Inquiries on Plaster of Paris*, &c. 8vo. 1797.

† *Agricultural Experiments on Gypsum*, &c. 8vo. 1797.

‡ *Notes on Husbandry and Rural Affairs*, &c. 8vo. 1799.

CHAPTER IX.

MECHANIC ARTS.

THE progress of civilised man in the mechanic arts, during the last hundred years, has been astonishingly great. To attempt a review, in detail, even of the principal inventions, discoveries, and improvements, which have taken place, during the period in question, in this boundless field for the exertion of genius and enterprise, would swell this section into many volumes. But, happily, the minds of most readers are so conversant with many of the objects which demand attention, in this department of the present work, that such minuteness of detail is as unnecessary as it is impossible.

The modern discoveries in *Mechanical Philosophy* have led to great and important improvements in the mechanic arts. The subserviency of those discoveries to the progress of many branches of art will readily appear from the perusal of the chapter which relates to them. That they have contributed, and will probably yet contribute, in a considerable degree, to the abridgment of labour, to the convenience and profit of artists, and to the excellence and beauty of manufactures, is too obvious to require particular explanation.

The great discoveries which the philosophers of the last century made in *chemistry*, may also be considered as rendering very distinguished ser-

vice to the mechanic arts. On the manufacture of all *metallic* and *earthen* wares the improvements in chemistry have shed important light ; and indeed to all the arts in the different processes of which heat, solution, composition, distillation, fermentation, and precipitation are necessary, chemical philosophy has furnished valuable aid.

Never were manufactures carried on upon so *large a scale* as during the eighteenth century, especially toward the close of it. The number of hands, and the amount of capitals employed in various branches of manufacture in Europe, may be pronounced, without hesitation, greatly to exceed the largest establishments of any former times.

It may also be asserted, that manufactures in general were never carried on with so much expedition and cheapness, or with so much elegance of workmanship, as at the close of the period under review. It is true, these circumstances have led to an increased *slightness*, and the want of *durability*, particularly in some articles of modern manufacture ; but, in many more cases, a great improvement in *quality*, as well as in *elegance*, has taken place.

The *division* and *abridgment of labour* were carried to a greater length in the course of the last age than in any preceding period. The influence of both these circumstances in promoting the mechanic arts will be readily appreciated by every intelligent reader.

But beside these general remarks, it will be proper to take notice of some of the principal inven-

tions and improvements of the mechanical kind, by which the last age is distinguished.

The different kinds of machinery for *carding* and *spinning cotton*, which modern times have produced, have proved a source of incalculable advantage to manufacturers, and do honour to the age. Less than forty years ago, the only machine much used for reducing cotton wool into yarn, was the *one-thread wheel*. Other methods, indeed, had been thought of, and proposed for promoting a more easy and expeditious process; but without any extensive or permanent success. At length, about the year 1767, Mr. James Hargrave, an English weaver, constructed a machine, by means of which any number of threads, from twenty to eighty, might be spun at once, and for which he obtained a patent. This machine is called a *Jenny*, and deservedly holds a high place among modern inventions. The astonishing abridgment of labour which it produces has been too much and too generally celebrated to require illustration here. Soon after the invention of this machine, Mr. Hargrave contrived a new method of *carding* cotton, more easy and expeditious than the old way of carding by the hand, which was now found inadequate to the rapid progress and large demands of the improved mode of spinning. He was succeeded by several other ingenious artists, who laboured with success, and who produced that expeditious plan of carding, by what are commonly called *cylinder cards*, which is now so extensively and profitably practised.

The next and most remarkable improvements

in this kind of machinery were made by Mr. Arkwright, afterward sir Richard Arkwright, also of Great Britain. He laid before the public his new method of spinning cotton, in 1768, for which he obtained a patent in 1769. In 1775 he also obtained patents for several engines which he had constructed to prepare the materials for spinning. The result of his different inventions is a combination of machinery, impelled by horses, water, or steam, according to circumstances, by which cotton is *carded*, *roved* and *spun*, with wonderful expedition, and with great exactness and equality*.

The effects produced by these splendid improvements, in extending the cotton manufactures of Great Britain, and in rendering them a source of national wealth and aggrandisement, are generally known. The number of cotton mills erected within a few years past; the great number of hands to which they afford employment; the immense capitals devoted to them; and their great productiveness, present a spectacle altogether unparalleled in history.

The first British *calicoes* were made in Lancashire, about the year 1772. The manufacture of *muslins* was first successfully introduced into that country in 1781. Both these branches of manufacture, which were before chiefly confined to India, have lately gained an extension, and assumed a consequence which must render their

* Sir Richard Arkwright was bred a barber, and was in the early part of his life in very low circumstances. He rose in fortune and in fame rapidly; and, in 1793, died at his manufactory in Derbyshire, leaving property to the amount of 500000*l*, the earnings of ingenious industry.

introduction a very important era in the history of Great Britain.

Machines for carding and spinning cotton were introduced into several parts of the United States during the last fifteen years of the century under review. But, like most other enterprises in manufactures, undertaken in that country, they have not been pursued either so extensively or so profitably as could be wished.

In this connexion it will be proper to take some notice of two American inventions for facilitating the making of *cards* for wool and cotton. About sixteen or seventeen years ago, a machine was invented in Massachusetts, for cutting and bending wire into a state completely prepared for *sticking cards**. Before this time the cards used in the United States were imported from Europe. Ever since a sufficient quantity has been manufactured in the country to supply its demands, and, at a late period, for exportation to a considerable amount. In 1797, Mr. Amos Whittemore, of Cambridge, in Massachusetts, invented a machine, which, by a simple operation, bends, cuts, and sticks card teeth, by the aid of which a dozen pair of cards can be furnished in less time than was formerly required to make a single pair†.

Two persons claimed the invention of this machine, *viz.* Foster and McClinch. The latter had his machine first in use, being more of a practical mechanic; but it was said that he had privately obtained a sight of Foster's work, who first planned the machinery. As it is not easy to ascertain the precise truth of this question, so it is of no importance to the public to which of these gentlemen the honour belongs.

† In September, 1799, William Whittemore and Co. commenced the manufacture of cards with this machine in Cambridge. There

Allied to the inventions above enumerated are the improvements in the art of *Weaving* which modern times have produced. Among these perhaps none is of more importance than the *Flying Shuttle*, lately introduced by the machinists of Great Britain. Previous to the introduction of this contrivance, when wide cloth was woven it was necessary to employ two or more hands to execute the work. The same task can now be executed by one person, and with much more convenience and expedition than formerly.

It was before remarked that *Steam Engines* were scarcely at all known prior to the eighteenth century. To the honour of inventing and perfecting this kind of machinery the artists of Great Britain are entitled. The honour particularly due to Messrs. Newcomen, Beighton, and Watt, on this subject, has been acknowledged in a former chapter. The force of *Steam* has been applied, during the period under review, to the turning of mills for almost every purpose; and there is no doubt that the machines moved by this agent are the most powerful ever formed by the art of man*.

are now twenty-three machines of this kind in operation at the same manufactory, which are able to furnish *two hundred dozen pairs* of cards, on an average, every week.

* One of these engines, as improved by Mr Watt, and employed for draining the deep mines of Cornwall, works a pump of eighteen inches diameter, and upwards of 100 fathom, or 600 feet high, at the rate of ten to twelve strokes, of seven feet long each, in a minute, and with one fifth part of the fuel that a common engine would take to do the same work. The power of this engine may be more easily comprehended by saying that it can raise a weight equal to 81000lbs. eighty feet high, in a minute,

In the erection of *Bridges* modern artists have displayed unprecedented boldness and enterprise. The first bridge constructed of *cast iron* was produced in the eighteenth century. This was erected over the river Severn, in Shropshire, in 1779, by Mr. A. Darley, an ingenious iron-master, assisted by the exertions of Mr. J. Wilkinson, of the same profession. The second *iron* bridge was constructed on a larger scale, over the same river, in 1796, upon a new plan, by Mr. Thelford. A third, on a still larger and more daring scale, was built over the river Wear, in Durham, a short time afterwards, by Rowland Burdon, esq. To these may be added the *wooden* bridges, of several kinds, and on various new constructions, which have been invented in the course of a few years past, both in Europe and America, and which have proved sources of great public utility.

In the construction of *Mills* improvements no less remarkable and important have been made, within the period in question. Of these some have arisen from the new light lately thrown upon the laws of *hydraulics*; and others from the ingenuity and enterprise of practical artists. The numerous experiments and discoveries, and the learned writings which have been given to the world in the course of the century, on this subject, by Desaguliers, Emerson, Smeaton, Barker, and Burns, of Great Britain; by Belidor, de Parcieux, and others, of France; by Bernoulli, of Switzer-

which is equal to the combined action of 200 good horses. See *Botanic Garden*, part i, *Additional Note* xi.

land; by Lambert and Karstner, of Germany; and by Elvius, of Sweden, make a very interesting part of the mechanical history of the age.

Equally worthy of attention are the successive inventions and improvements of modern times, in the construction of all kinds of *Wheel Carriages*. To enumerate these, and to attempt to give a list of their authors, would be an endless task. Suffice it to say, that the superiority of modern wheel-carriages, over those possessed by our predecessors, in lightness, elegance, beauty of form, and convenience, is very great, and constitutes one of the mechanical honours of the age.

Great improvements have been made, during the age under consideration, in the construction of engines for *extinguishing fires*. The efficiency of those engines which have been formed for this purpose within the last twenty or thirty years, compared with those which were in use at the beginning of the century, is wonderfully great. The addition of an *air-cell* to these machines, by Mr. Newsham, of London, greatly increased their power, and deserves to be mentioned as an important event in the course of their improvement.

In the art of *Coining* several important inventions have been produced, in the course of the last century, which are worthy of being remembered. Probably the most conspicuous and valuable of these is that by Mr. Boulton, of Soho, Birmingham. "He has lately constructed a most magnificent apparatus for coining, which has cost him some thousand pounds. The whole machinery is moved by an improved steam-engine, which rolls the copper

for half-pence finer than copper has before been rolled for making money; it works the couplets or screw-presses for cutting out the circular pieces of copper, and coins both the faces and edges of the money at the same time, with such superior excellence, and cheapness of workmanship, as well as with marks of such powerful machinery as must totally prevent clandestine imitation, and, in consequence, save many lives from the hand of the executioner. By this machinery four boys, of ten or twelve years of age, are capable of striking thirty thousand guineas in an hour, and the machine itself keeps an unerring account of the pieces struck *."

Several modern improvements in the art of *Printing* deserve a place in this imperfect list. The first worthy of being mentioned is the *Stereotype* † plan of printing, which has lately become so fashionable, especially in France. This plan was first invented in 1725, by Mr. Ged, a goldsmith, of Edinburgh, who, among other books, printed a very neat edition of *Sallust* ‡, in his new method. Owing, however, either to some defect in the plan, or to the want of skill in the execution of his specimen, Mr. Ged's invention seems to have attracted but little notice. In 1782 Mr.

* Darwin's *Botanic Garden*, part i, canto i, note.

† This word, which M. Didot of France seems to have first employed, is derived from the Greek words στερεος, *solidus*, and τυπος, *typus*, denoting that the types are soldered, or otherwise connected together.

‡ In the title page of this edition there are the following words, viz. *Edinburghi: Gulielmus Ged, aurifaber Edinensis, non typis mobilibus, ut vulgo fieri solet; sed tabellis seu laminis fuis, excudebat.*

Alexander Tilloch, of Great Britain, revived, or rather rediscovered this art; for he is said to have been ignorant of Ged's contrivance till long after he had announced his own. The subsequent year he took out a patent for it, in conjunction with Mr. Andrew Foulis, printer to the university of Glasgow. About the year 1789 M. Didot, of France, seems to have invented, a third time, this valuable art, and to have contrived several important improvements, which render his mode more convenient and useful than that of any of his predecessors*. The *Stereotype* plan of printing is most happily calculated to secure accuracy in numerical tables, and in books of a similar kind. Indeed, for publishing all works of classical character, extensive sale, and permanent demand, it is an invaluable acquisition. The beautiful editions of several Greek and Roman classics, which have been executed in this manner, by the French printer above mentioned, are well known to be favourable specimens of this far-famed improvement.

In a considerable degree resembling the *Stereotype* is the *Logographic* mode of printing, an invention announced in 1783 by Mr. H. Johnson,

* The *Stereotype* mode of printing adopted by Didot is as follows: the page is first set up in moveable types; a mould or impression is then taken off the page with any suitable plastic material; and afterwards as many solid pages are cast from the mould as may be wanted. The plan adopted by Ged, and others, seems to have been different. After setting up the page with moveable types, they soldered them together, and thus formed a permanent page, from which as many copies might be stricken as were desired. The comparative merits of these different plans will readily present themselves to the intelligent reader.

of Great Britain. In this invention the types for printing, instead of answering to *single letters*, are made to correspond to *whole words*; a circumstance which points out the etymology of the name. The advantages of this new mode are said to be these: that the compositor has less charged upon his memory than in the common way; that he is much less liable to error; that he saves time, inasmuch as the type of each word is as easily and as readily set as that of a single letter; that the distribution afterwards is more simple, easy, and expeditious; and that no extraordinary expense, nor greater number of types is required in this than in the common mode of printing*.

Another improvement in the art of printing, which belongs to the last age, is the kind of impression called *Fac-simile*, or forming the types in such a manner as precisely to resemble the manuscript intended to be copied. The first approach to this method of printing was the Medicean Virgil, printed at Florence in 1741. This, however, though an approximation to the plan, was by no means, strictly speaking, what is now meant by *fac-simile* printing, as the resemblance of the manuscript was not complete. The first great work of this kind was the New Testament of the Alexandrian MS. in the British Museum, published by Dr. Woide, in 1786, which exhibits its prototype to a degree of similarity scarcely credible. Since that time a few other works of considerable extent have been published on the same plan, particularly Dr. Kipling's edition of the four Gospels

* *Encyclopædia*. Art. *Logography*.

and the Acts of the Apostles, according to the MS. of Beza. But, for the most part, the practice in question has been confined to manuscripts of small extent, and to objects of especial curiosity*.

The art of forming *types* for printing has also received considerable improvements in the course of the eighteenth century. Among the numerous authors of these, the celebrated John Baskerville deserves particular notice. The diligence, zeal, and success with which he applied himself to improve the mode of founding types, and to give them a more beautiful form, are well known; as well as the numerous editions which he was enabled to give of important works, particularly the Latin classics, in a style of elegance far surpassing every thing of the kind which had before issued from the press. Various inventions, to abridge labour in the business of letter-foundry, have also been made within this period; of these, perhaps, few are entitled to be mentioned with more respect than that of Mr. Apollos Kinsley, an ingenious American, who is said to have devised a method of abbreviating, to an astonishing degree, the necessary process in this manufacture†.

The discoveries made within a few years past in the philosophy of *Tanning* have greatly facilitated the process, and promoted the interests of that important art. For these the public are in-

* *Monthly Review*, of London, vol. xii, N. S. p. 241.

† *American Review, and Literary Journal*, vol. i, No. 1.

debted to Dr. Macbride, Messrs. Fay, Seguin, Desmond, and several others *.

The still more numerous and radical improvements which late years have produced in the art of *Brewing*, are no less worthy of notice. The successive investigations, and valuable writings, of sir Robert Murray, Mr. Combrune, Mr. Richardson, Mr. Ker, and Mr. Long, on this subject, are worthy of respectful notice in marking the progress of the age under review.

In the art of *Bleaching*, also, important discoveries and improvements were made in the course of the last age, especially toward the close of it. The speculations and experiments of Drs. Home and Black, and Mr. Watt, of Great Britain; and of Messrs. Chaptal, Berthollet, Pajot de Charmes, and Beaume, of France; beside those of many other chemists and practical artists, have contributed to place this art, so interesting to manufacturers, entirely on a new footing, within a few years past. Instead of the old process, which or-

* The mode of tanning leather with great expedition was first recommended by Seguin, of France. It was introduced into England by Mr. Desmond, about the year 1795; and has been frequently employed with great success. But it is said to be only eligible in cases of pressing necessity, where the process *must* be completed in a short time, being expensive, and, as some believe, in a degree injurious to the leather. The liquid for tanning leather, according to this method, is obtained by digesting *oak bark*, or other proper material, in water, frequently drawing off the water, and pouring it upon fresh tan, until the liquor is highly coloured, and very strong. Into this liquor the hides are immersed for a few days, after being previously prepared for tanning by means of a solution of the astringent principle and *vitriolic acid*.

dinarily employed a number of weeks, and even several months, recent discoveries have furnished means of reducing cloth to a state of beautiful whiteness in a few hours.

In the art of *Dyeing* no less signal progress has been made within a few years. The learned investigations, and laborious experiments, which have been successively instituted for the improvement of this art, by Dufay, Hellot, Macquer, d'Apligny, and Berthollet, of France; and by Messrs. Delaval and Henry, Dr. Bancroft*, and others, of Great Britain, are very honourably displayed in their respective works, and have been productive of great utility to several of the manufacturing classes of the community.

In the eighteenth century the first *Porcelain ware* ever manufactured in Europe was produced. The account of the invention is curious. John Frederic Bottger, a German, about the year 1706 believed, or pretended, that he had learned the art of transmuting various substances into gold, from a goldsmith at Berlin. He went into Saxony, and was allowed all the requisite materials, and every assistance necessary for prosecuting his operations, by certain persons who thought proper to encourage him. For several years he laboured in vain. At last, imputing his want of success to the crucibles not being of a proper quality, he attempted to make these vessels himself of a hard and durable kind; and in this attempt he accidentally pro-

* *Experimental Researches concerning the Philosophy of Permanent Colours.* By E. Bancroft, M.D. &c. 1794.

duced porcelain*. The manufacture of this article was afterward extended to France, Italy, and Great Britain. But of all the countries of Europe, France produces porcelain in the greatest quantity, and of the best quality.

For many of the improvements lately made in several of the manufactures last mentioned, we are much indebted to modern *Chemistry*. The important aid furnished to these, and a multitude of other mechanical operations, by the facts and principles brought to light in the course of recent chemical inquiries, is too well known to require explanation.

The manufacture of *Metallic Wares*, in modern times, has made astonishing progress, both in extent and refinement. In Great Britain especially those branches of the mechanic arts which belong to metallic substances, and particularly the manufactures of *Iron*, have received the greatest degree of improvement. The workmen of that country, in this department of art, have been enabled, within a few years past, by various inventions and discoveries, to unite rapidity of execution, elegance of form and polish, excellence of quality, and cheapness of price, in their manufactures, to a degree without example in the history of human ingenuity.

But to recite the mechanical inventions and improvements which belong to the period under review would be a task almost without limits. To this class belong the ingenious experiments and valuable discoveries by Mr. Wedgwood, in the

* *Monthly Review*, vol. vi, N. S. p. 545.

art of *Pottery*, and in various kinds of manufactures in *Clay*; the invention of a new and more durable kind of *Stucco* than had ever been used before, by Mr. Higgins; the numerous improvements which have been made in the composition and manufacture of *Glass*; the almost countless new plans for improving the construction of *Lamps*, by Argand and others; the various modes proposed for rendering *Stoves and Fire-places* more economical and comfortable, by Franklin, Rittenhouse, Rumford, and Peale; the new degrees of perfection to which *Clocks* and other *Chronometers* have been carried*; the invention of new vegetable materials for the formation of *Paper*, more plentiful and easy of access than those of which alone it had been before made†; the method of *renovating old paper*, by a chemical process, cleansing it

* Among the several improvers of *Time-keepers*, during the last age, Harrison, Arnold, and Kendall were before mentioned as deserving particular praise. The first was bred a carpenter, and began by making wooden clocks. It is unnecessary to add, that by the force of his genius he rose to the highest eminence in the arts.

† There is a particular reference here to the discovery of the reverend Mr. Senger, of Germany, that a certain aquatic plant, called by Linnæus *conferva rivularis*, is capable of being manufactured into paper, of as excellent a quality as that made of rags, and at less expense. The same discovery was made a short time afterward by Robert R. Livingston, esq., late chancellor of the state of New York, and now minister plenipotentiary to the French republic, without any knowledge of what Mr. Senger had done; and indeed some time before the German discovery had been communicated to the public. It has been also ascertained that paper of an excellent quality may be made of common *straw*, and that, in a state of mixture with other materials, even *saw-dust* is useful in fabricating the same substance.

from all foreign matter, discharging the ink, and rendering it again fit to receive new impressions; the methods which have been devised for *multiplying copies* of prints and manuscripts with ease, expedition, and cheapness; the various plans for *cutting and casting Nails*, instead of the old and tedious method of forming them on the anvil; beside a multitude of others, scarcely, if at all less important, which time would fail to enumerate.

Finally, the effects of the various improvements which have been introduced into every department of the mechanic arts, during the last age, in promoting the conveniency, cheapness, and elegance of *living*, will readily occur to the most careless observer. No one will say that it indicates undue partiality to our own times to assert, that at no period of the world was the *art of living*, especially the comforts and conveniences of domestic life, ever on so advantageous a footing as at present. Ancient writers, indeed, have given highly coloured pictures of the magnificence and sensuality which reigned at different times in *Greece* and *Rome*; and in more modern days we read many descriptions of luxury which superficial thinkers would suppose to indicate much greater plenty, comfort, and splendour, than are now commonly enjoyed. But they are, for the most part, descriptions of plenty without taste, and of luxury without enjoyment. When we compare the ancient modes of living with the dress *, the furniture, the equipage, the conveniences of travelling, and the

* When the author speaks of the superiority of modern *dress* to the ancient, he wishes to be understood not as asserting that it is superior in its *form*: this he is persuaded would not be in all

incomparably greater ease with which the same amount of comfortable accommodation may be obtained at present, none can hesitate to give a decided preference, in all these respects, to modern times. Perhaps it would not be extravagant to say that many of the higher orders of mechanics and day labourers now wear better clothes, and live, not more plentifully, but in some respects more conveniently, more neatly, and with more true taste, than many princes and kings were in the habit of doing two centuries ago, and in a manner quite as pleasant as multitudes of a rank far superior to themselves, at a later period. In short, the remarkable and unprecedented union of neatness and simplicity, cheapness and elegance, which has been exhibited in the art of living, within the last thirty or forty years, is, at once, a testimony of the rapid improvement of the mechanic arts, and one of the most unquestionable points in which we may claim a superiority over our predecessors.

respects true: the full and flowing garments of the Greeks were, probably, more healthful, as well as more graceful; but in the *texture*, *conveniency*, and *cheapness* of dress, it is presumed later fashions have greatly the advantage.

CHAPTER X.

FINE ARTS.

ON the state of the fine arts, during the eighteenth century, it is not easy to speak in general terms. Were any remark of this kind to be made, it ought probably to be, that in this department of genius the last age fell considerably below some preceding centuries. In all the branches of art, indeed, which come under this denomination, the period which we are considering had its luminaries; but they were only in a few instances of the first magnitude. For this comparative deficiency some at least plausible reasons may be assigned.

It has been said that though an art, in its progress toward perfection, is greatly promoted by emulation; yet, after arriving at maturity, its decline is no less hastened by the same spirit. On this principle it has been supposed that the great works of the ancient masters, presenting to modern artists so high a degree of excellence, either discouraged all competition, or prompted those who would not submit to be humble imitators to attempt something new, which, in most cases, proved to be degeneracy rather than improvement.

Much greater pains have been taken, during the last age, to form many, by laborious instruction, to practise the fine arts, than to encourage and honour those who possessed native genius. Hence the number of smatterers in the arts, during this period, has risen to an unprecedented

amount. These have all subtracted more or less of the patronage which would otherwise have been directed to the most deserving; and thus, by obvious means, robbed the latter of no small share both of fame and excellence.

But if the eighteenth century were less distinguished than some preceding ages for *producing* specimens of first-rate excellence in the fine arts, it may safely be pronounced to exceed most other periods in forming numerous, large, and splendid *collections* of specimens of this kind. The monuments of human genius, especially in painting and sculpture, collected and displayed in the city of Paris at the close of the century, were undoubtedly more numerous and magnificent than had been exhibited in one place for many ages*. Next to these the collections of a similar kind in Germany, Petersburg, and Great Britain, are entitled to high distinction for their extent and excellence.

In several of the departments of the fine arts there are a few names and improvements which distinguish the eighteenth century, and which deserve to be noticed in this retrospect †.

* The violation committed on the treasures of the fine arts in Italy, in the course of the late war, under the sanction of the French government, while it certainly cannot be justified on the principles of national probity and honour, may, perhaps, have an unfavourable influence on the progress of the arts in France.

† Several of the facts and names mentioned in this chapter were communicated to the author by Mr. John R. Murray, of the city of New York, a young gentleman of extensive information, and excellent taste in the fine arts, who has just returned to his native country, after making the tour of Europe, where he viewed the noble collections which that part of the world affords, with a

SECTION I.

PAINTING.

In this noble art the century under consideration is honourably distinguished. From the middle of the seventeenth century, till toward the middle of the eighteenth, scarcely any painters of first-rate excellence had appeared. The mantles of those great masters, Rubens, Vandyke, Guido, and other contemporary artists, seem not to have fallen upon any of their immediate successors. At the commencement of the century Kneller, Dahl, Richardson, Jervas, and Thornhill, of Great Britain, were conspicuous in their respective departments of painting; as were also Cignani, Giordano, Maratti, Jauvenet, and many others on the continent of Europe. But these artists, though unquestionably of the first class then known, were inferior, particularly the former group, to many who had gone before them, and by no means equal to some of their successors.

Though the eighteenth century produced fewer painters of great and original genius than several preceding ages, yet it is remarkable for having given birth to an unprecedented number, who, with a moderate portion of genius, and with great industry, have risen to high respectability in this art. There was, no doubt, more painting performed by artists of this period, than during any former one of similar extent since the art was cultivated. The

degree of intelligence and accuracy of observation by no means common among travellers.

most numerous and the most excellent painters, during the century in question, have been produced in Italy, Great Britain, France, and the United States.

The painters of Great Britain, about the year 1750, with a view of promoting their art, associated together, and formed a kind of academy, which was supported by annual subscription. This association was continued, with various changes in the degree of its respectability and success, until 1768, when the *Royal Academy of Painting, Sculpture, and Architecture*, was established, under the auspices of the king, and composed of the ablest artists residing in that country. In the establishment of this institution no individual was more active, or exerted a more useful influence, than sir Joshua Reynolds, who held the highest rank in his profession, and who was for many years president of the Academy. From the rise of this institution, which at once furnished a *School* for instruction, a scene of *Annual Exhibition*, and numerous excitements to emulation, we may date the revival of a correct taste for the fine arts in Great Britain.

In the last twenty years of the century many specimens of painting were produced by British artists, which give them high distinction in a comparative estimate of their talents with those of other nations. Toward producing this effect much has been ascribed to the eloquent and instructive discourses of sir Joshua Reynolds, who appears to have taken unwearied and successful pains to form the taste of his pupils on the principles of the great masters of the Italian and Fle-

mish schools. His exertions to promote a just taste in this art have been very honourably seconded by those of West*, Fuseli, and others, who hold a distinguished place in the British school of arts.

The *Historical Painters* of the eighteenth century were numerous, and some of them highly respectable. Among these Ciguani, Giordano, Maratti, and Jauvenet, beforementioned, held, early in the century, an honourable rank. At later periods the Italian school has been adorned by Battoni, Mengs, Martini, Dietrich, and several others. In Great Britain the works of West, Reynolds, Copley †, and Trumbull ‡, have been

* Mr. Benjamin West is a native of Pennsylvania. About the year 1763 he went to Italy, under the patronage of William Allen, esq., chief justice of the province, whose son accompanied him. After studying the monuments of ancient and modern genius in Italy, he went to Great Britain, where he has since resided, and where the productions of his pencil have been rewarded with distinguished honours and emolument. The works of this artist are too numerous to be mentioned. His suite of *sacred* paintings for the royal chapel at Windsor have been much celebrated. Beside these, his *Death of Wolfe*, his *Battle of la Hogue*, his *Battle of the Boyne*, and his *Flood*, are considered as deserving particular distinction. He is said, by some good judges, to be, on the whole, the greatest painter in his department now living.

† Mr. John Singleton Copley is a native of the state of Massachusetts. He went, a few years ago, to Great Britain, where he was patronised and instructed by Mr. West, and where he has been since very honourably distinguished as an artist. His *Death of Chatham*, and his *Siege of Gibraltar*, are generally considered among the most respectable monuments of his genius.

‡ Mr. John Trumbull is a native of the state of Connecticut. His father was governor of that state for a number of years, and was much distinguished for his talents and patriotism. His excellency Jonathan Trumbull, the present governor of Connecticut,

much celebrated. In France the national taste had been for some time perverted by the influence of Boucher. But in the latter half of the century a better taste was formed in that country by the genius and exertions of Vincent, David, Regnault, Gerrard, Giraudet, and Guerrin, whose productions hold a high place in the estimation of modern connoisseurs.

The eighteenth century is distinguished above all preceding ages by the remarkable prevalence of a taste for *Comic Painting*. The great original in this branch of the art was William Hogarth, an English artist, whose genius and works have been long and universally famed. This wonderful character is, perhaps, to be viewed rather as a writer of comedy with a pencil, than as a painter. He invented a new species of dramatic painting, in which all the ridicule of life became concentrated and embodied by his magic touch, to a degree altogether unknown to any former artist, and in which he will probably hereafter have few equals. His talent for depicting the comic is thus described by one of his contemporaries: "If catching the manners and follies of an age 'living as they rise,' if general satire on vices and ridicules,

is his brother. This gentleman early discovered a great fondness for the art, in which he has since made such honourable proficiency. He studied for some time under the direction of his illustrious countryman Mr. West, who is not more distinguished by his abilities as an artist, than by his exertions in bringing forward American genius. Mr. Trumbull has presented the public with several historical paintings, which place him high among the artists of the eighteenth century. His best pieces are the *Death of Montgomery*, the *Battle of Bunker's Hill*, and the *Sortie of Gibraltar*.

familiarised by strokes of nature, and heightened by wit, and the whole animated by proper and just expressions of the passions, be comedy, Hogarth composed comedies as much as Moliere. He is more true to character than Congreve; each personage is distinct from the rest, acts in his sphere, and cannot be confounded with any other of the *dramatis personæ*. Hogarth had no model to follow and improve upon. He created his art, and used colours instead of language. He resembles Butler; but his subjects are more universal; and, amidst all his pleasantry, he observes the true end of comedy, reformation. There is always a moral to his pictures*.” It is remarkable, however, and deserves to be mentioned as an instructive fact, that while his mind was so richly stored with materials for exhibiting the common scenes of life; while he possessed such unrivalled powers in displaying the ridiculous, he could not rise to the great historical style of painting, and whenever he attempted it egregiously failed†.

It is worthy of remark, that, since the time of Hogarth, a taste for *caricatura*, and for comic painting in general, has evidently increased, especially in Great Britain, to a degree beyond all former example. Notwithstanding the phlegmatic character usually ascribed to the British, it is a curious fact, that, in no country on earth has the taste for this species of painting been so fashionable, or carried to so high a degree of perfection. In a particular part of comic painting Mr. Henry

* Lord Orford's (Horace Walpole's) *Works*, vol. iii, p. 453, &c.

† Sir Joshua Reynolds's *Works*, vol. ii, p. 163.

Bunbury has much distinguished himself. His exhibitions of scenes in *Tristram Shandy*, and other works, present his genius in very strong and lively colours, and deserve to be mentioned among the signal peculiarities of the age. Bunbury is the only successful imitator of Hogarth, and is among the very few imitators who rise, in their respective kinds of excellence, to full equality with their original. Like his great predecessor, he displays more humour when he invents than when he illustrates.

It is probable that *Portrait Painting* was never before so much practised as in the eighteenth century*. In this branch of the art sir Joshua Reynolds was the great and unrivalled master. "This celebrated painter," says an eloquent writer, "was the first Englishman who added the praise of the elegant arts to the other glories of his country. In taste, in grace, in facility, in happy invention, and in the richness and harmony of colouring, he was equal to the great masters of the most renowned ages. In *portrait* he went beyond them, for he communicated to that description of the art, in which English artists are the most engaged, a variety, a fancy, and a dignity, derived from the higher branches, which even those who professed them in a superior manner did not always preserve

* A taste for *Portrait Painting* has, perhaps, been more prevalent in Great Britain, especially during the last age, than in any other country on earth; insomuch that some foreigners have brought the charge of vanity against the English on this account. But a more serious consideration is, that this taste, by limiting the cultivation of historical subjects, has had a disadvantageous influence on the higher branches of the art.

when they delineated individual nature. His portraits remind the spectator of the invention of history, and the amenity of landscape *."

But sir Joshua Reynolds was not alone in this department of painting. Many others, though not all equally deserving, are entitled to a place among those distinguished artists who do honour to the period under review. Beside a number of others who might be mentioned, the merits of Lawrence, Ramsay, Gainsborough, Northcote, Opie, Beechy, Romney, and Barry, of Great Britain; of Greuze, of France; and of Stuart†, of the United States, entitle them to the highest praise.

* Character by Burke, in the life of Sir Joshua Reynolds by Malone, 8vo, p. 119.

† Mr. Gilbert Stuart, the celebrated portrait painter, is a native of the state of Rhode Island. He discovered, early in life, a taste for painting. This was encouraged by a friend of the family, who had himself considerable skill in the same art, and who took young Stuart with him to Great Britain, where he spent several years before he reached the age of manhood. On returning to his native country, and discovering a growing fondness for the pencil, he was patronised by Mr. Joseph Anthony, a respectable merchant of Rhode Island, afterward of Philadelphia, by whom he was again sent to England, and placed under the tuition of Mr. West, where he made great proficiency, and soon became distinguished as a portrait painter. The high reputation which he has since gained in this branch of the art is generally known, both in Great Britain and America. A late satirical, and in many respects very exceptionable writer, speaking of this gentleman, expresses himself in the following terms: "I do not know any living artist to whom I would so eagerly sit, for an immediate and faithful resemblance, as to G. Stuart; as, I believe, he sees his object, and the infinity of tints constituting that object, with more perspicuity than any other existing portrait painter." See Anthony Pasquin's *Royal Academicians*.

That mode of delineating the human countenance called *Miniature* painting, though practised prior to the age under consideration, yet may be said to have gained a prevalence, and attained a degree of excellence, during that age, which were altogether unknown in any former period.

In *Allegorical* painting Angelica Kauffmann, a distinguished genius of Germany, now residing at Rome, was perhaps never exceeded *. In that vigorous imagination which enables an artist, as it were, to embody and depict metaphysical ideas, Mr. Fuseli has displayed unrivalled talents. In *Landscape*, Gainsborough, Wilson, Smith, Turner, Morland, and several others, have attained high distinction in Great Britain; as have also Vernet and Valenciens, of France; Ommagank, of Antwerp; and several others in different part of Europe. In depicting *Cattle*, and various kinds of *Animals*, Wenix and Ommagank, of the Flemish school; and Stubbs, Gilpin, and Catton, of Great Britain, may be honourably compared with the painters of any age. Van Huysum, of Amsterdam, may be considered the greatest painter of *Flowers* that ever lived; and in the same class van Spandonck, of the French school, is entitled to respectful notice.

The century under review is distinguished by

* A friend, on reading what is said above of this celebrated artist, made the following remark: " I think you speak in rather too strong terms of the genius of Angelica Kauffmann. Although she is very high on the list of artists, her works have not sufficient force of character and composition to entitle her to such praise."

the recovery of the *Encaustic* method of painting, which was much used by the ancients, but had been long lost. This method consists in the use of *wax* to give a gloss to colours, and to preserve them from the injuries of the air. The restoration of this art is ascribed to count Caylus, a member of the *Academy of Inscriptions* in France, and was announced to the Academy of Painting and Belles Lettres in 1753; though M. Bachelier had actually painted a picture in wax in 1749; and he was the first who communicated to the public the method of performing the operation of *inustion*, which is the principal characteristic of the encaustic painting. Some additional facts were afterwards brought to light, and some improvements in this art were proposed by Mr. Muntz, in an elaborate treatise on this subject. A different and improved species of encaustic painting was next discovered, in 1759, by Mr. Joshua Colebrook, of Great Britain; and, finally, Miss Greenland, of the same country, in 1787, communicated to the Society of Arts some further discoveries and improvements, which were rewarded by that association with a prize. This method of painting has many advantages. The colours laid on in this manner have all the strength of painting in oil, and all the airiness of water-colours, without partaking of the defects of either. They are firm, will bear washing, and may be retouched at pleasure, without injury. The duration of this kind of painting is also an advantage; the colours are not liable to fade and change; no damp, or corrosive substance, can affect them; they have no

tendency to crack; and if by accident they receive injury they can be easily repaired*.

A new kind of painting, called the *Elydoric*, which name it derives from *oil* and *water* being both used in its execution, was invented a few years ago by M. Vincent, of France. The great advantages of this invention are, that, by means of it the artist is enabled to give a very high finishing to small figures in oil, and to add to the mellowness of oil-painting the greatest beauty of water-colours in miniature; and to do this in such a manner that it appears like a large picture seen through a diminishing glass †.

The art of *Painting on Glass* was revived in Great Britain during the eighteenth century, and brought, by the artists of that country, to as great, if not greater, perfection than it had ever before attained. In effecting this revival, the celebrated Jervas, a British painter, was, among others, much distinguished ‡.

The invention of a more perfect manner of preparing *Water Colours*, about the year 1778, by Mr. Thomas Reeves, of Great Britain, also deserves to be mentioned as an important event in the history of modern painting. The numerous advantages conferred on the art of drawing in water-colours, by this invention, are generally known, and can scarcely be too highly appreciated.

* See Encyclopædia, art. *Encaustic Painting*.

† *Ibid.* art. *Painting*.

‡ The finest specimens of Jervas's talents in painting on glass are some copies from West, in the windows of St. George's chapel, at Windsor.

In the year 1787 was announced the invention of what is called *Polygraphic Painting*, by which paintings in oil may be multiplied, by a chemical and mechanical operation, to a wonderful extent. The numerous copies obtained, by means of this invention, are said to possess great excellence. The utility of this art, if its merits be such as have been mentioned, is too obvious to require explanation.

A method was invented not long ago by Mr. Robert Salmon of Bedfordshire, of transferring valuable paintings from the substance on which they were originally painted, to another more eligible one. The utility and importance of this invention will be readily appreciated by every intelligent reader.

Numerous experiments have also been made, during the last age, with respect to the best mode of preparing and laying on *Colours*. For these, the art of painting is indebted to several chemists and practical artists. But they are too numerous, and would require too much minuteness of detail, to be explained in the present sketch*.

Finally, to this section belongs some notice of the art of *imitating pictures in needle-work*, which has been brought to greater perfection during the eighteenth century than ever before. In very

* The laborious and ingenious experiments made by modern artists, particularly those directed towards the recovery of the celebrated *Venetian* mode of colouring, have not been attended with so much success as might have been expected. Mr. West has been much engaged in this inquiry, but without, as yet, attaining the desired object. His colours, however, are permanent. The same cannot be said in favour of sir Joshua Reynolds. His colouring, though much praised in his day, is now found to fade exceedingly. *MS. note of Mr. J. R. Murray.*

early times we read of specimens of *needle-work*, by the hands of celebrated females, which attracted much attention, and which were exhibited as decorations of dwellings, and as monuments of ingenious industry. But within a few years past improvements have been made in this elegant art, which far surpass the most renowned productions of the same kind in former ages. The names of several ladies might be mentioned, who have much distinguished themselves by contributing to these improvements; but among these the genius and works of Miss Linwood, of Great Britain, hold an undisputed preeminence. The needle, in the hands of this lady, has become a “formidable rival of the pencil.” The pieces she has wrought so far transcend, both in number and excellence, all preceding attempts, that they may, with great justice, be placed among the distinguishing honours of the period under review. Perhaps no less praise is due to miss Thomson, for her matchless exhibition of paintings in wool.

SECTION II.

SCULPTURE.

In this art the eighteenth century, though it has produced some respectable masters, yet falls far short of those renowned monuments which do so much honour to Grecian genius. Of that portion of skill in sculpture which has fallen to the lot of modern artists, the largest share, as in former periods, belongs to those of Italy. In that coun-

try Algardi*, Cherachi, Comolli, Carlini, and, above all, Canova†, have been much distinguished. Beside these Roubilliac, la Moitte, Chaudet, Houdon, and Boizot, of France; Rysbrach and Fiamingo, of Flanders; Schaddau, of Berlin; Bacon, Nollekens, Wilton, Flaxman, Moore, Banks, and the honourable Mrs. Damer‡, of Great Britain; Sergel, of Sweden; and a few others, in different parts of Europe, have attained, within the period in question, considerable celebrity.

The art of taking human likenesses in *Wax*, though not absolutely peculiar to the eighteenth century, has been carried to a degree of perfection during this period, which was never before known. In this art Mrs. Wright, an ingenious American lady; Mr. Gossett and his nephew, of Great Britain; and several others on the continent of Europe, have gained very honourable distinction.

The various compositions for *Busts* and other

* Algardi lived early in the eighteenth century. Among the numerous works on which his reputation is built, his famous specimen of *alto relievo*, in St. Peter's, at Rome, deserves particular commendation. The subject is the appearance of St. Peter and St. Paul to Attila, when laying siege to Rome. It is one of the finest things to be seen in that city.

† Canova resides at Rome. The author is informed, by Mr. Murray, that this artist is undoubtedly the greatest sculptor now living, and fully equal to the second class of Grecian sculptors. Mr. Murray, when at Rome, was often in the workshop of Canova, and declares, that, on comparing a statue of *Perseus*, executed by him, with a cast from the *Belvidere Apollo*, placed in the same room, the former suffered very little by the comparison.

‡ Mrs. Damer is the first instance, in the annals of sculpture, of a *female* attaining distinction in this art. Some of her works do her great honour.

kinds of statuary, which modern genius has invented, are worthy of notice in this brief sketch of the peculiarities of the last age. Those in particular by Wedgwood and Bentley of Great Britain are entitled to the highest praise. Modern artists are also distinguished, above all others, by the facility and accuracy with which they take *copies* of antique specimens of sculpture, in common plastic materials. The utility, as well as elegance, of this mode of multiplying the monuments of ancient genius, make it worthy of being noticed among the honours of the eighteenth century.

In France a new method of representing the human figure has been lately adopted. Guirhard and Dehl, of that country, in 1800, completed a human figure in *porcelain*, of four feet high. This is, probably, the largest made of the same material ever seen. They can, however, still magnify them to the size of life. The advantages to be derived from adopting this kind of statuary are durability, cheapness, and expedition and ease of production. Porcelain is as hard as silex, and less liable to injury than marble. These figures may be prepared in a mould, by which means the statues of great men may be multiplied with little labour, and at a small expense*.

Mr. James Tassie, of London, with a view to the further advancement of the imitative arts, has discovered a method of transferring the figures and heads of antique and modern engraved gems into coloured glass and enamel, similar to the originals in colour, durability, and brilliancy. This has

* Garnet's *Annals of Philosophy*, &c. for 1800.

been pronounced by some connoisseurs to be a discovery of great value for perpetuating the works of miniature sculpture. By means of it many remains of ancient genius, which were lost to the world in general, may be universally diffused in all their original beauty and excellence *.

Toward the close of the century under consideration, a collection was made, in Paris, of all the *Monuments of Sculpture* which France could afford, from the eighth to the eighteenth century, and arranged according to the order of centuries. This is the first, and the only collection of the kind, ever made. It is the only school in which the progress of sculpture, during the middle ages, can be advantageously studied †.

SECTION III.

ENGRAVING.

This art, which was not known prior to the middle of the fifteenth century ‡, was brought, in the course of the eighteenth, to a degree of refinement and perfection which forms one of the signal honours of the age. And although some specimens

* Monthly Magazine, Lond. vol. vii.

† *Description Historique et Chronologique des Monumens de Sculpture, réunis au Musée des Monumens Français; par Alexandre Lenoir.*

‡ The ancients, it is true, practised engraving on precious stones and chrystals, with very good success; but this is rather a species of sculpture. The art of engraving on plates of metal, and blocks of wood, from which to take prints or impressions, was not known till the period above mentioned.

of this art, of a very early date, display the spirit of the painting they were intended to copy, with a success which has never been exceeded; yet, considering the general excellence of engraving, it certainly never attained so high a degree of improvement, in all respects, as during the century under consideration. The instruments for prosecuting this art have been, within the period in question, greatly improved both in power and convenience; new kinds of engraving have been invented; and the methods before known carried to an extent of beauty and elegance unknown to the artists of any preceding times.

A method of *Engraving on Glass* was invented toward the close of the century under consideration. This is done by means of the *Fluor Acid*, discovered a few years ago by Margraaf and Scheele. To effect this kind of engraving a glass plate is covered with melted wax or mastic. When this coating becomes hard, it is engraved upon by a very sharp-pointed needle, or other instrument of that kind. A mixture of oil of vitriol and *fluor acid* is then put upon the plate, and the whole covered with an inverted china vessel, to prevent the evaporation of the acid. In two days the plate, being cleared of its coating, exhibits all the traces of the instrument.

Engraving in *Aquatinta* is also a recent invention. This is a method of *Etching* on copper, by which a soft and beautiful effect is produced, resembling a fine drawing in water colours or Indian ink. The artists who most distinguished themselves in this department of engraving, within the period

under consideration, were Sandby, Parkyns, and Jukes, of Great Britain.

Caligraphy, a species of engraving in imitation of *Chalk drawings*, if not invented, was first brought to a high state of excellence and improvement, in the eighteenth century. Those who have been most eminently distinguished in this department of the graphic art, are Messrs. Ryland and Bartolozzi, of Great Britain *.

Mr. Smith, an engraver of London, toward the close of the period embraced in this retrospect, is said to have invented a method of making impressions from his own plates, so to resemble *Oil Paintings* as to be with difficulty distinguished from them, even by connoisseurs. These impressions are represented as possessing that sort of brightness which is so much admired in Venetian paintings, as resembling them also in permanency, and as being of such a nature as to render a covering of glass, so expensive and frangible a material, altogether unnecessary.

The art of producing *Coloured Engravings* belongs almost entirely to the period under consideration. About the time of the revival of learning, some artists produced prints of different colours, by means of *wood cuts*, employing a different plate for each colour. But so much inconvenience and imperfection attended this method, that it was sel-

* For this, and for several other articles of information, detailed in the present section, and for some valuable hints on the subject of modern painting, the author acknowledges himself to be indebted to Mr. Archibald Robertson, conductor of the *Columbian Academy of Painting* in the city of New York, whose ingenuity and taste as an artist are well known in America.

dom resorted to. No further improvement seems to have been attempted till near the middle of the eighteenth century, when some experiments were made by French artists, with *Copperplates*, with a view to obtain coloured prints. They also found it necessary to use different plates for different parts of the work; and on this, as well as other accounts, the expense of their plan prevented its general adoption. But toward the close of the century a method was invented of producing an elegant coloured engraving from a single copperplate. The English artists are said to have carried this improvement to the greatest degree of excellence.

A method of engraving is said to have been lately invented by Mr. Westall, an artist of London, more nearly resembling *Drawings* than was before known. In 1799 he exhibited a drawing, and the year following a print taken from it, which was so close an imitation as to deceive the eye.

The art of *Engraving on wood* had been practised in great perfection for several centuries before the eighteenth, but degenerated, and became little used. At the close of the seventeenth century it was in a very low state; and it had almost sunk into forgetfulness, when Thomas Bewick, of Newcastle, a few years ago, revived it. He is said by some, indeed, to be entitled to the honour of reinventing the art; and has certainly brought it to a degree of elegance and perfection unknown to the later engravers. His pupils, Nesbit and Anderson, also have been for a considerable time distin-

guished by their taste and skill in this branch of engraving. To these names may be added that of Dr. Anderson, of New York, who has much signalised himself by his genius for the same art.

A method has been, within a few years, devised of taking off an impression of any figures or writing drawn on the surface of *Marble*. The advantages of this invention are great ease and freedom of execution, and the facility of multiplying, to a great extent, the number of copies.

The eminent engravers of the eighteenth century were numerous. Among those who have either improved the art, or produced specimens very honourable to their characters, it will be proper to mention a few names. Woollett, Strange, Ryland, Sharpe, and Heath, of Great Britain, stand high in the list of modern engravers. Audran, Monet, Simon, and Beauvarlet, of France, have received much praise; and Porporerti, Bartolozzi, Testolini, and, above all, Morghen, of Italy, deserve to be mentioned with the greatest respect.

SECTION IV.

MUSIC.

In the art of *Music* the century under consideration furnished several events and characters worthy of being recorded. These relate either to discoveries and improvements in the principles of music, distinguished composers in this art, or those

who have rendered themselves famous by the excellence of their personal performances.

The principles of music have been considerably improved during the last age. The origin and laws of *Harmony* were little understood before the commencement of this period. Facts and rules were known; and the improvements of the celebrated Corelli, in *Counterpoint*, at the close of the preceding age, have received great and just praise. But the philosophy of harmony had been very imperfectly developed until M. Rameau, a scientific musician of France, early in the century, undertook the investigation of this subject, and introduced into it more light and order than had been before known. He exhibited the foundation and the principles of harmony, and the source of that pleasure which it affords; he analysed the consonances in music; he explained the mutual dependence of harmony and melody, and formed the laws of each into a distinct code, in a manner more luminous and satisfactory than any of his predecessors*. The result of his labours was given to the world in 1752, when he was considered by many as the great monarch of the musical world, as “a theorist to whom this art was as much indebted as physics and philosophy to Newton.” And although this opinion of his merit, entertained by his countrymen, may be more honourable than he deserves, yet the science of music is doubtless indebted to him as one of its greatest cultivators and

* See d'Alembert's *Elémens de Mus. Theor. et Prat. suivans les Principes de Rameau*, 1762.

improvers, during the age in which he lived*. The system of Rameau has received successive illustrations and improvements from M. d'Alembert, abbé Roussier, and others.

Another great theorist in music was Tartini, an ingenious Italian, who followed M. Rameau; and although the scientific correctness of his work is called in question, it still abounds with most valuable instruction to practical musicians. To these may be added the large and enlightened works of Marpurg, a great German musician; beside the publications in different parts of the world on particular departments of music, of which even the principal are too numerous to be recounted†.

This new light shed on the principles of music has enabled succeeding artists to carry what is called *Modern Symphony*, which took its rise long before, to a very high degree of refinement and perfection. Those who have been most distinguished in this department are Vanhall, Haydn, Pleyel, and Mozart, all of Germany, and composers of the first class. In the new style of music introduced by these artists greater attention than formerly is paid to *contrast* and *effect*; and it is also distinguished by more *sprightliness* and *variety*. And if it be less simple, less easy of acquisition, and, in some instances, less harmonious than that of their immediate predecessors, it contains, at the same time, a greater predominance of *air* and

* Burney's *History of Music*, 4to, vol. iv, p. 612, &c.

† *Ibid.*

melody, and is better calculated to make new, surprising, and diversified impressions.

It was about the beginning of the century under consideration that Italian music first became fashionable in England. The first *Opera*, upon the Italian plan, was performed there in 1705. Compositions derived from the same source have since become more popular and general. How much this kind of musical drama, invented by Politian, is indebted to Metastasio for its improvement is generally known.

The sacred musical drama, or *Oratorio*, was invented in Italy in the beginning of the fourteenth century, but was never publicly exhibited in Great Britain until introduced by George Frederick Handel, in 1732. This wonderful genius had come from Germany to England about twenty years before, and by his zeal, and the incomparable excellence of his compositions, formed a grand æra in the history of music. Perhaps no individual musician of the age has been more frequently the subject of eulogy, or filled a larger space in the public estimation than this illustrious German. His *Oratorios*, including the *chorusses*, which he brought into use, were exhibitions of the very first order*.

It would be improper to omit taking notice in this place of a new musical instrument, which the century we are considering produced, denominated by Dr. Franklin the *Harmonica*. This is an instrument formed of glass, on which, by rubbing the finger according to certain rules, the most de-

* Burney's *History of Music*, vol. iv.

lightful music is produced. Mr. Puckeridge, an Irish gentleman, about the middle of the century, was the first who contrived to play regular tunes on an instrument of this kind. After his death Mr. Delaval, an ingenious member of the Royal Society in Great Britain, made a musical instrument on the same principles, but with a better choice and form of glasses. In this stage of the invention Dr. Franklin undertook to investigate the subject, and considerably improved upon Mr. Delaval's plan, giving it the name which has been mentioned *. Since Dr. Franklin, Dr. E. Cullen, of Dublin, has formed an instrument of the same nature, but much more extensive and complicated, which he thinks so different as to require a new name. The great excellencies of the *Harmonica*, as an instrument of music, are, that "its tones are incomparably sweet, beyond those of any other; that they may be swelled and softened at pleasure, by stronger or weaker pressures of the finger; that they may be continued to any length; and that the instrument being once well tuned, never again wants tuning."

The century under consideration has also produced a new species of musical instrument, called the *Euphon*, invented in 1790, by Dr. Chladni, a philosopher of Germany. Like the *Harmonica*, it is performed with the hand, on *glasses*; but it differs from that instrument in several respects. The music of the *Harmonica* is produced by rubbing the edges of glass vessels, in a circular direction; whereas the music of the *Euphon* is effected

* See Franklin's *Letter to Father Beccaria*, on this subject.

by rubbing the surface of long glass tubes, in the direction of right lines. In the number and sweetness of its tones, the latter approaches nearly to the excellence of the former ; but is much superior in simplicity ; in the ease and expedition with which the music is produced ; in cheapness of construction ; and in having so little disagreeable effect on the nerves of the performer*.

A new species of *Hunting Music* was invented in *Russia*, a few years ago, by J. A. Maresch, master of the imperial chapel, who died in 1794. It is performed entirely on *Horns*, of different sizes and figures, some long and straight, others short and curved, but all of the same tone. These instruments are said to be carried to such perfection, that the *quartettoes* and *quintettoes* of Haydn, Mozart, and Pleyel, may be performed upon them, and the *concertoes* of Giarnovichî executed, even to the *shake*, with admirable precision and ease.

The great musical *Composers* of the eighteenth century were very numerous. It will be possible to take notice only of a very small number among the most distinguished. Of these there were in England, Arne, Greene, Boyce, Avison, Arnold, and Burney ; in France, Rameau, Bertier, Piccini, Gosec, and Gretry ; in Germany, beside the illustrious names before mentioned, Graun, Abel, Fischer, Bach, Gluck, Fuchs, Fasch, Richter, and Stamitz ; and in Italy, Martini, Jomelli, Metastasio, Bononcini, Raimonde, Salamon, Alessandri, and many others.

The great musical *Performers* of the eighteenth

* Tilloch's *Philosophical Magazine*.

century were probably more numerous than those of any preceding age. Of these by far the greater number were natives of Italy and Germany, especially the former. They were so many, indeed, that no attempt will be made in this place to give a list even of the most conspicuous. Nor is such an enumeration necessary. The fame of the astonishing musical powers possessed by Nicolini, Farinelli, Gabrielli, Carestini, Giardini, Rubinelli, Marchesi, and a multitude of others, has long pervaded the civilised world.

The year 1784 was rendered a memorable æra in the annals of music, by the splendid and magnificent manner in which the birth and genius of Handel were celebrated in Westminster Abbey, and the Pantheon, under the immediate auspices of the king and queen of Great Britain, and the other most dignified personages in the kingdom. This commemoration has been since established as an annual musical festival, for charitable purposes*. The number and excellence of the performers engaged in this commemoration, and the style of the music exhibited by them, may be safely pronounced to have exceeded every thing of the kind of which the history of the art gives us any account†.

* *Encyclopædia Britannica*, art. *Music*.

† In 1784 this commemoration was celebrated by 500 voices and instruments; in 1785, by 616; in 1786, by 741; in 1787, by 806. These performers were, in general, of the very first class.

SECTION V.

ARCHITECTURE.

In this art the last century presents little which, by the attentive inquirer, can be considered as remarkable. Many noble specimens of architecture have been produced during this period, but probably few, if any, of these are equal to some of the productions of former times. There appear to be two circumstances in the architectural history of the eighteenth century, in which it differs from that of preceding ages.

The first is, that the *Public* buildings erected during this period will be found, in general, less grand and massy than those of some former periods. But while they fall short in splendour and magnificence, they are probably much superior to most of the ancient specimens of architecture in simplicity, convenience, neatness, and real elegance. This difference probably arises, in some degree, from the well known fact, that most of the monuments of ancient taste and skill in architecture belong to countries and times when despotic sovereigns were able to command the property and the labour of millions, and when building cities and temples was one of the standing habits, and chief honours, of great potentates. Since the revival of the arts these circumstances have so seldom met together, and particularly in those countries which have been most capable of profiting by them, that buildings on a plan of great splendour and magnificence have been undertaken compa-

ratively seldom. But convenience, neatness, and simple elegance, as they are within the power of taste in all nations and ages, have been displayed, it is believed, with peculiar frequency in the last century.

The other peculiarity in the architecture of the last age is, that *Private Dwellings*, during this period, became, in general, more spacious, convenient, and agreeable to a correct taste, than ever before. In all preceding ages, even those which were most favourable to the arts, the number of large and convenient private houses was small. While public buildings were studiously extended and ornamented, only a few of the most wealthy possessed large, comfortable, and beautiful habitations. The number of this description has greatly increased in modern times. The manifest augmentation, in the course of the last century, of that respectable and useful portion of society usually called the *Middle Class*, has, no doubt, led to this improvement. It may probably be asserted that a larger proportion of mankind were, at the close of the century under review, furnished with convenient, and even elegant, habitations, than ever before enjoyed the like advantage.

The liberal use of *Glass*, in modern buildings, greatly contributes to their beauty and comfort, and is a point in which they peculiarly excel. And in descending to the various minute details of human dwellings, especially those which relate to elegance and enjoyment, it is evident, that in many respects the artists of the eighteenth century exceeded all others.

America, during the period under consideration, has furnished but few objects worthy of being contemplated or recorded. Pursuits of more immediate utility and profit have generally occupied the attention of her citizens, and must continue to occupy it, until their wealth and taste shall be greatly augmented. That America is not deficient in native genius for the fine arts, the names of West, Copley, Trumbull, and Stuart, before mentioned, abundantly testify; and that it can boast of many artists who want nothing but instruction, and incitements to exertion, to place them in a very honourable rank, experience daily renders more probable *. A taste for the fine arts in that country is evidently on the increase †.

* Among many names which might be mentioned to justify this remark, it would, perhaps, be improper to omit taking notice of Mr. Vanderlyn, a native of Ulster county, in the state of New York. This young gentleman very early in life discovered a taste for painting. For the purpose of encouraging and cultivating this taste, he was sent to Europe, a few years ago, under the patronage of Aaron Burr, esq., now vicepresident of the United States. He has lately returned to this city, and, in the estimation of good judges, bids fair to be an honour to his country.

† Though the institution of the *Academy of the Fine Arts*, in the city of New York, does not belong to the century under review; yet the author cannot avoid taking notice of it in this place, as an event which marks the growing taste of its citizens, does honour to the gentlemen who have exerted themselves in forming and executing the plan, and bids fair to be one of the most elegant and interesting ornaments of the city.

CHAPTER XI.

PHYSIOGNOMY.

PHYSGNOMY, considered with respect to the feelings and the experience of mankind, has been an object of attention in all ages. The countenance and general exterior have always been regarded as furnishing some indication both of the intellectual and moral character. Every one who goes into society, and who observes at all, must receive impressions of this kind involuntarily and without design. It may even be said, that the first dawnings of perception and reasoning in children exhibit abundant proof, that some relation between the dispositions of the mind, and the features of the countenance, is recognised and understood by them. So far, then, physiognomy has been an object of attention, and of some inquiry in all stages of human knowledge.

The first time we hear of this subject being studied as a science, is about the time of Pythagoras. It is said to have been much cultivated in Egypt and India, when that philosopher visited those countries, and to have been brought by him into Greece. In the time of Socrates physiognomy was studied and adopted as a profession*. Plato speaks of it as attended to by the students

* The story of Zopyrus, who undertook to decide on the character of Socrates, by inspecting his countenance, is well known.

of nature in his day. But the first distinct and formal treatise on the subject is by Aristotle, whose work, as it displays the power of his great mind, so it may be considered as the guide to all subsequent inquiries, and the basis of every physiognomical treatise that has since appeared. After Aristotle, his disciple Theophrastus wrote on physiognomy, in a very accurate and interesting manner. He was succeeded by a number of others less conspicuous; and, indeed, at every period of the history of Greece and Rome, when learning was cultivated in any considerable degree, we hear something of men who employed themselves in investigating and teaching this science.

But when the Roman empire was overthrown by her northern invaders, and when, in the general wreck, the various departments of philosophy were buried in forgetfulness, physiognomy also became, in a great measure, neglected and forgotten, as a specific object of study. For a number of centuries we hear little or nothing about it. At the beginning of the sixteenth century we find it again exciting some attention, and from that time till near the close of the seventeenth, it continued to be a general and fashionable subject of inquiry. Within that period the writers on physiognomy were very numerous, and some of them respectable and instructive.

There was one circumstance, however, connected with the study of physiognomy, within the period last mentioned, which served to throw it into a kind of temporary disgrace, and which certainly retarded its progress. For more than two centuries after the revival of learning, the arts of

Magic, Alchemy, and Judicial Astrology were fashionable pursuits, and were interwoven with almost every other object of study. Unfortunately physiognomy was rarely spoken of, or investigated but in connection with those playthings of ancient folly, now so justly ridiculed and exploded. From the middle of the seventeenth century we may date the downfall of the reign of alchemy and astrology, and with them, as one of the sciences denominated *Occult*, physiognomical inquiries for a time also declined.

Philosophers, however, soon learned to distinguish between the science itself and that perversion of it which had arisen from an unnatural connection. Accordingly, early in the century under consideration, it was taken notice of respectfully by Dr. Gwither *; and afterward, in a still more pointed and able manner, by Dr. Parsons †. Beside these British writers, Lancisius, of Italy; Haller, of Switzerland; and Buffon, of France, published observations on certain branches of the subject, which it is scarcely necessary to say were ingenious and interesting. But the first discussion relating to the science of physiognomy, in the eighteenth century, which excited much attention, was that which took place in 1769, between M. Pernetty and M. le Catt, and is recorded in the *Memoirs of the Academy of Sciences* ‡. Both these gentlemen contended for the reality and importance of the science; but differed widely with re-

* *Philosophical Transactions*, vol. xviii.

† *Human Physiognomy explained*, 1747.

‡ *Mem. Acad. Scien.* 1769, Mem. 4th and 5th.

spect to its principles and extent. And though, probably, neither was entirely correct in his views, yet they doubtless contributed to increase the knowledge and study of the subject.

In a short time after the discussion in France had been laid before the public, the great and far-famed work of the rev. M. Lavater, of Zurich, appeared. The opinions respecting physiognomy which he had been for some time divulging in conversation, and disseminating in fragments, were collected by him into formal and extensive volumes. This is certainly the most splendid and interesting work on the subject that was ever published; and the deep and general attention which it has excited is well known. Not only in Switzerland, but in Germany, in France, in Great Britain, and indeed, throughout the literary world, it has been read with a degree of ardour and admiration seldom bestowed on the productions of genius. It has been translated into various languages; passed through an astonishing number of editions; and though now somewhat diminished in popularity, is still perused with high respect and pleasure. That the illustrious Swiss is enthusiastic, fanciful, and visionary; that his works exhibit a singular mixture of wonderful discernment, plausible conjectures, and laughable dreams; and that he gives an extension and importance to the subject which few will allow, seems to be generally admitted. That he carries his principles to an extreme, and attempts to confer upon his rules a definiteness and precision little short of the ridiculous, is also evident. Still there is, doubtless, much reality and justness in his

system. And he often displays the refined accuracy of a very delicate observer, together with the enlightened views of a real philosopher*.

The method of illustrating physiognomical discussions by *Engravings* was first adopted by Baptista Porta†, one of the earliest writers on the subject after the revival of letters. The engravings of M. Lavater are more numerous, better executed, and, consequently, far more instructive than his. Since the labours of this amiable, pious, and ingenious divine, nothing has been done in the science of physiognomy worthy of being recorded as new. All, therefore, relating to this subject, that can be considered as peculiar to the eighteenth century, is the revival of attention to it; the detaching it from the disgraceful connection in which it had previously stood; and the exhibition of its principles in a more popular and splendid manner. But sanguine calculators imagine that a foundation has been recently laid for incomparably greater progress. They look forward to the time when the students of this science shall carry it to a degree of perfection of which faint ideas only can now be formed; when its principles shall be so clearly defined, our knowledge of its laws so greatly extended, and departments, at present unknown, so fully laid open to the prying eye of philosophy as to render it one of

* See his *Essays on Physiognomy*. Some account of his mode of thinking and reasoning on the subject may also be found in the *Encyclopædia*, from which many of the facts above stated are collected.

† A philosopher of Naples, who flourished about the middle of the sixteenth century.

the most safe standards of judgment, and one of the best guides of action. In short, many have spoken of it as a science susceptible of mathematical certainty, and as capable of endowing man with a power little short of complete intuition into the hearts, intentions, and talents of his fellow men.

It may be well doubted whether these anticipations be not altogether extravagant and vain. To set bounds to the progress of science is impossible. We can only say, that its cultivators and improvers being finite creatures, there must be limits somewhere, beyond which they cannot hope to advance. And though some further improvements in physiognomy may be with reason expected, yet several considerations concur to render it probable that these improvements must ever fall far short of the point to which many extend their views. Mankind have been long employed in investigating the subject, without making any signal or important advances in their knowledge of its nature and principles. There seems to be little room, in this field of investigation, for those *experiments* and *discoveries* which have so brilliantly and profitably abounded in many others. But, above all, to look forward to a period when physiognomy shall be so generally and perfectly understood, as to furnish mankind with a plain and infallible criterion, by which, in all cases, to ascertain precisely the talents and the disposition of each other, is to think of invading the prerogative of Omniscience, and acquiring an instrument subversive of human society. And even

if we could suppose such progress in this science within the bounds of probability, we must believe that the arts of concealment, deception, and every concomitant of artifice and false refinement will, at the same time, make equal progress, and thus leave us in the same relative situation as at present.

CHAPTER XII.

PHILOSOPHY OF THE HUMAN MIND.

IF the physical sciences have received great and radical improvements during the century under consideration, it is feared the same degree of improvement cannot be ascribed to the science of the human mind, and the auxiliary branches of philosophy. In this wide field new *experiments* and *discoveries*, in the proper sense of the words, can have no place; and there are serious grounds of suspicion, that many modern systems of high claims, and imposing aspect, are by no means substantial additions to the sum of knowledge. There is no doubt, indeed, that we have happily gotten rid of much pedantry and jargon, which once obtained currency among the learned. We have thrown off the stiff, uncouth, and disgusting habiliments which formerly enveloped the systems of the schoolmen. But, in many cases, there is reason to believe that one jargon has been discarded only to adopt another equally exceptionable. Various old dresses have been laid aside, to make way for others, more fashionable, indeed, but no less fantastic and odious. This character, however, though it belongs to many modern metaphysical writers, by no means applies to all. The last age has, doubtless, produced some writers to whom we are indebted for substantial improvements, and real progress, in the interesting field of inquiry

under consideration. Even some of those who taught doctrines in general delusive, yet have shed new light, and contributed to clear the way for those who should come after them. By many *running to and fro*, though they frequently deviated into the paths of error, *knowledge* has been, on the whole, increased.

It has been peculiarly happy for this branch of philosophy, that, in modern times, the principles and power of *language* have been more studied, and better understood, than in any preceding century. One great cause of the darkness and perplexity which so long hung over many of the doctrines of mind, was the loose and inaccurate manner in which the terms employed to explain the phenomena were used. This evil, though not entirely, has been in some measure corrected. The use and abuse of terms have received a more enlightened attention than in former times. The art of definition has become more precise, intelligible, and popular. The senseless prating about *occult qualities*, and the perpetual use of unmeaning words, have gradually become less fashionable. A habit of more precisely distinguishing between cause and effect, between those things which may be investigated, and those which are beyond the reach of the human mind; and between those truths which are self-evident, and such as require demonstration; has been introduced, and is still gaining ground. And although this sceptical tendency of the age has retarded the progress of this department of philosophy in these various respects, yet we have reason to rejoice that so much pro-

gress through defiles of error has been made, as to render the last age one of the most distinguished periods in the annals of the human mind.

It is, however, a curious fact, that while a much more simple and intelligible philosophy of mind has, in the course of the last age, taken the place of former perplexed and abstruse systems, yet the study of metaphysics, through the whole of that age, has been almost uniformly declining in popularity. That taste for light and superficial reading which so remarkably characterises modern times, cannot endure the accurate, the profound, and the patient thinking, so indispensably necessary for pursuing investigations into the laws, powers, and progress of our intellectual faculties. Hence the word *metaphysics* is seldom pronounced but with contempt, as signifying something useless, unintelligible, or absurd*. But the profundity and difficulty of the subject do not form the only reason of that general neglect, and want of popularity attending studies of this kind, at a period when they might be expected to command more esteem and attention. The dreams and mystical nonsense of the schoolmen, which scarcely began to be rejected till the time of des Cartes†, and were not generally thrown aside till

* See *Additional notes*—(III.)

† Renes des Cartes was born at la Haye, in France, in 1596, and educated among the Jesuits. His doctrines concerning the human mind were first published about the year 1633, and soon began to excite much attention among the learned. For a number of years before his death he resided chiefly in Holland. Removing to Stockholm, in consequence of an invitation given to him by the queen of Sweden, in 1649, he died there in

after the labours of Mr. Locke led a large number, even of the literary and ingenious, to decry pursuits of this nature, and to imbibe strong prejudices against them. These prejudices have descended through successive generations, and are yet far from having lost their influence. But if the *mind* be our *better part*, if its powers and activity be all important, as every one must acknowledge them to be; and if some correct understanding of these powers be intimately connected with our improvement, comfort, and usefulness; then to despise metaphysics is to despise one of the noblest objects of human inquiry, and to display a very degrading ignorance of the comparative worth of those studies which invite our attention.

It was before remarked, that at the opening of the century Mr. Locke had laid his *Essay on Human Understanding* before the world*. The publication of this great work forms an era in the history of metaphysical science. The author was the first who gave, in the English language, an

1650. It is universally known that the opinions taught by this great man long filled an immense space in the philosophical world.

* John Locke was born at Wrington, near Bristol, in the year 1632. He was educated at the University of Oxford, which he entered in 1651. After leaving the university he studied physic, and engaged for a time in the practice of this profession. In 1664 he went to Germany, as secretary to sir William Swan, envoy to the elector of Brandenburg. In 1670 he began to form the plan of his *Essay on the Human Understanding*, which he published in 1690. He died in 1704. Of the vigorous intellect, the profound and extensive views, the great learning, and the excellent character, of this celebrated "master builder" in science, it is unnecessary to speak. The above dates are given merely for the convenience of reference.

example of writing on such abstract subjects with simplicity and perspicuity; and there is, perhaps, no work, in any language, “better adapted to teach men to think with precision, and to inspire them with that candour and love of truth which are the genuine spirit of philosophy.”

Though des Cartes had done much, before the time of Mr. Locke *, to correct the errors which abounded in the ancient systems of metaphysics; and though some of the leading opinions of that great French philosopher were adopted by the illustrious Briton, yet the latter was, in many respects, an original, and a reformer in science. His investigations concerning the origin and formation of ideas, concerning the use and abuse of terms, and concerning the extent and limits of our intellectual powers, are well known by those conversant with the philosophy of mind to display many new doctrines, and to place their author among the most profound thinkers. Mr. Locke differed from des Cartes with respect to the origin of our ideas. The latter thought some of them are *innate*; the former maintained that there are no in-

* Des Cartes was the first metaphysician who drew a plain and intelligible line of distinction between the *intellectual* and *material* world, or between *spirit* and *body*. The importance and utility of this distinction are obvious. He was the first who showed that the analogical mode of reasoning, concerning the powers of the mind, from the properties of body, is totally erroneous; and that accurate reflection on the operations of our own mind is the only way to gain a just knowledge of them. It was his philosophy which brought the *phantasms*, the *sensible species*, the *substantial forms*, &c. of the old systems into disgrace, and introduced a more simple, perspicuous, and rational method of investigating metaphysical truth.

nate ideas, and that they are all derived from two sources, *sensation* and *reflection*. Des Cartes supposed that the essence of mind consists in *thought*, and that of matter in *extension*; while Locke believed that the real essence of both is beyond the reach of human knowledge. The British philosopher explained more distinctly than any one had done before him the operations of the mind in classing the various objects of thought, and reducing them to *genera* and *species*. He was the first who distinguished in substances what he calls the *nominal essence*, or that generic character, and specific difference, which may be expressed by a definition from the *real essence*, or internal constitution, which he supposed could not be known; and who, by means of this distinction, pointed out the way of bringing to an issue those subtle disputes, particularly the controversy between the *Nominalists* and *Realists*, which had puzzled the schoolmen for ages. He showed, more satisfactorily than preceding inquirers, how we may form abstract and general notions, and the use and necessity of them in reasoning. He first expressed the distinction between *primary* and *secondary* qualities, though the ideas implied in this distinction seem to have been in some measure understood by des Cartes. And, finally, Mr. Locke had much merit peculiar to himself, in exhibiting the ambiguity of words, and by this means solving many difficult questions which had tortured the wits of former metaphysicians*.

* See *Essay on the Human Understanding*, passim; and Reid's *Essays on the Intellectual Powers of Man*, vol. i, Essay 2, chap. ix.

But while ample justice is done to Mr. Locke's genius; while the splendid service which he rendered to the philosophy of mind is readily acknowledged; and while his intentions are allowed to have been unexceptionably pure; yet it may be doubted whether his writings have not done more to promote a spirit of scepticism than those of any other individual since his time. This effect has been produced not only by some of his doctrines, but also by the general spirit of his philosophy.

In tracing all our ideas to two sources, *sensation* and *reflection*, he imposed on the mind of the inquirer by a plausible, but very deceitful, appearance of simplicity. It is no less true in the philosophy of the mind than in that of the physical sciences, that attempts to simplify and generalise may be carried not only further than truth will warrant, but also to a seductive and mischievous length. Mr. Locke defines *reflection* to be "the notice which the mind takes of its own operations, and the manner of them." This definition, beside being rather descriptive of *consciousness* than of *reflection*, embraces a more important error. To say that all our ideas are ideas either of sensation or reflection, is to say that we can think of nothing but an object of sense, or an act of our own minds. But is this true? According to this account, what shall we say to the various exercises of memory, of imagination, &c.? This philosopher, also, in representing *ideas* not as thoughts in the mind, nor yet the external objects of thought, but as intermediate, occult *images*, which alone the mind contemplates, gave countenance to a principle from which the most dangerous and ab-

surd inferences have since been made. The whole controversy about *innate ideas*, if Mr. Locke uniformly employ this phrase in the same sense, is a war of words. If an idea be an object of thought which intervenes between the mind and the thing perceived, none can, or ever did, suppose that ideas are *innate* in this sense. To assert that the mind has *such* innate ideas, would be to represent it as thinking before it thinks, and acting before it acts.—From these, and other erroneous principles taught by this great philosopher, it soon became apparent that doctrines from which he would have shrunk with abhorrence must necessarily result; and the history of metaphysical science since his time evinces how mischievous error is, when supported by the authority of such a mind as that which produced the *Essay on the Human Understanding*.

From the date of this great man's work, the old *Ontology* and *Logic* have declined. The philosophy of mind has assumed a more simple, popular, and intelligible aspect. And although it has been since made to appear probable that some of the doctrines which he taught are erroneous, yet that he contributed more than any other individual of modern times to develop the nature and operations of the human mind, and to introduce a more rational and correct mode of philosophising on this subject than had before prevailed, seems to be generally admitted.

Not long before Mr. Locke published his celebrated *Essay*, father Malebranche, a learned and acute metaphysician of France, in a work entitled *Recherche de la Vérité*, or *Inquiry after Truth*, pub-

lished a doctrine which soon led to singular consequences. He laid it down as a principle, which, indeed, had then been admitted by all preceding philosophers, that we do not perceive external objects immediately, but by means of images, or ideas of them present to the mind. In order to account for the production of these ideas in the mind, he maintained that the soul of man is united with a being possessed of all perfection, who has in himself the ideas of every created being; and therefore that we see all things in God. Malebranche was sensible that this system left no evidence of the existence of a material world; for if the mind sees all things in God, or if the Divine ideas alone are perceived by us, we cannot be certain that the various forms of matter around us exist, since the ideas in the Eternal Mind were the same before any creature was made. This consequence he candidly acknowledged, and maintained that the only evidence we have of the existence of a material world is derived from Revelation, which assures us that God created the Heavens and the Earth, and that the *Word was made flesh*. This doctrine was vigorously and ingeniously opposed by its author's countryman and contemporary, Anthony Arnould, doctor of the Sorbonne. But though the latter succeeded in showing the weakness and fallacy of the reasoning, which he attacked, he was not equally successful in establishing a consistent and satisfactory theory of his own. The system of Malebranche, however, notwithstanding its visionary character, was warmly espoused by Mr. Norris, an English divine, who, in 1701, published a large and labori-

ous work, designed to explain, support, and extend it. He went beyond the French philosopher, on the subject of the material world ; for although he maintained the *probability* of its existence, he denied our having any evidence absolutely decisive that this is the fact.

In 1710 a doctrine still more singular and daring was announced by George Berkeley, a philosopher of Ireland, and afterward bishop of Cloyne. This gentleman, equally distinguished for the penetration and comprehensiveness of his mind, the extent of his learning, and the eminence of his virtues, denied the existence of a material world ; contending that what are usually called sensible objects without us, are only ideas in the mind ; that there is nothing in the universe but spirits, and ideas, or images subsisting in and perceived by them. He differed from Mr. Locke in several other respects beside this. He discarded *reflection* as a source of ideas ; he divided the objects of human knowledge into two kinds, *ideas* and *notions*. The first, according to him, are presented to us by our five senses ; they have no existence when they are not perceived, and exist only in the minds of those who perceive them. The second kind of objects he supposed to comprehend spirits, their acts, and the relations and habitudes of things : of these, he contended, we have *notions* but not ideas. But of all the opinions taught by this great and good man, none have rendered him more famous than his denial that those prototypes of our ideas, usually called material objects, have any real existence ; and contending that all the varied beauties of creation which we behold are

nothing more than fancies or images impressed on the mind for wise purposes, by the omnipotent Creator*.

Although, as was before observed, father Malebranche shrunk from this bold conclusion of Berkeley, yet he was aware that his reasonings led to it; and, indeed, his work may be said to contain a large portion of the arguments afterward adopted by the acute and learned bishop, in their full force. But to Berkeley is due the honour of having first openly espoused this doctrine, so contradictory to all our feelings and senses; of defending it upon a more formal and extensive plan than any of his predecessors; and of giving new and ingenious views of the subject †.

About three years after the bishop's first publication on this subject, Arthur Collier, an English clergyman, in his book, called *Clavis Universalis, or a New Inquiry after Truth*, endeavoured to demonstrate the nonexistence and impossibility of an external world. The arguments which he adduced in support of his cause are the same in substance with those used by Dr. Berkeley, though the author says nothing of the work of that celebrated metaphysician, and does not appear to have seen it.

* See *Principles of Human Knowledge*. Dublin, 1710.

† Mr. Dutens, who is anxious to find among the ancients every invention and doctrine to which the moderns lay claim, quotes the following passage, in which something like the *Berkeleyan* doctrine is plainly alluded to. Πινεται τωινον, καὶ αὐτον, ἵαν ἄνθρωπος καὶ ἄλλος οὐκ ἄνθρωπος· πάντα γὰρ ἵα φαινόμενα ἵα αὐτοῦ αἰσῆς, καὶ ἄλλου, ἵα οὐ μὴδεν ἵων ἀνθρώπων φαινόμενα, οὐδε ἑῷ. *Scit. Empiric. Pyrrhon. Hypotypos.* lib. i, sect. 219. See *Recherches sur l'Origine de Découvertes*, &c. tom. i, 53.

There was only one step more which was left for the most daring metaphysical revolutionists to take, *viz.* to deny the existence of a *spiritual* as well as of a *material* world. This step was at length ventured upon by Mr. Hume*, a sceptical metaphysician, whose acuteness and ingenuity are well known. Adopting Mr. Locke's and bishop Berkeley's opinion, that all the immediate objects of human knowledge are ideas in the mind, he traced the consequences of this principle to their utmost extent, and contended that there is neither matter nor mind in the universe! That what we call *body* is only an assemblage of sensations; and what we call *mind* only an assemblage of thoughts, passions, and emotions, without any subject. On the opposition in which the doctrines of the Irish ecclesiastic and the Scottish historian stand to the common sense and all the spontaneous and the deepest impressions of mankind, it is needless to remark †. Their authors

* David Hume, the celebrated metaphysician and historian, was born at Edinburgh, in the year 1711. He was designed for the law by his friends; but having no inclination himself to that profession, he applied to business, and in 1734 became a clerk to a merchant at Bristol. Soon afterward he went to France, where he wrote his *Treatise of Human Nature*, which was published at London in 1739. Between this period and his death he travelled into Italy, Germany, and again into France. His *Moral Essays* were published in 1742; his *Political Discourses*, and his *Inquiry concerning the Principles of Morals*, in 1752; his *Natural History of Religion* in 1756; and his *History of England* was completed in 1761. He died in 1776.

† The universal scepticism to which the sophistry of Mr. Hume leads, or rather which it directly embraces, cannot, with propriety, be considered here. Nor is it necessary. The extravagance and the mischievous tendency, especially of some of his

were sensible of this, and it is probable did not, in moments of sober reflection, believe their own speculations. Certain it is, they both acknowledged that the adoption of the principles which they maintained ought not to affect the practice of men, who must ever act as if they were known to be false : an argument, one would imagine, itself, of strong presumptive force against all their plausible reasonings. But however the doctrines inculcated by these subtle disputants might have opposed their own feelings, or shocked the minds of others, it is certain they contributed much to promote that speculative philosophy, the tendency of which is to strike at the root of all knowledge, and all belief.

Mr. Hume taught that all the perceptions of the human mind resolve themselves into two classes, *viz. impressions* and *ideas* ; comprehending under the former all our sensations, passions, and emotions ; and under the latter the faint images of these, when we remember or imagine them. Our *ideas*, in the opinion of this philosopher, are all copied from our *impressions*, the former differing from the latter only in being weaker perceptions. “ He adopted Locke’s account of the origin of our ideas, and from that principle inferred that we have no idea of substance, corporeal or spiritual ;

opinions, seem, at present, to be acknowledged by all, excepting the desperate few, who are ready calmly to resign all principle, and all belief. The character of his philosophy, “ falsely so called,” has been exposed with great beauty of rhetoric, by Dr. Beattie, in his *Essay on Truth* ; and, with great force of reasoning, by Dr. Reid, in his *Inquiry into the Human Mind*, and his *Essays on the Intellectual and Active Powers of Man*.

no idea of power; no other idea of a cause, but that it is something antecedent, and constantly conjoined to that which we call its effects; in a word, that we can have no idea of any thing but our sensations, and the operations of mind of which we are conscious," and that nothing else exists*.

But though Mr. Hume's fundamental doctrines were thus extravagant and absurd; and though his philosophy, falsely so called, leads to the most unlimited scepticism, as he doubtless intended it should; yet both he and bishop Berkeley rendered important service to metaphysical science. The mode in which they discussed their very errors and absurdities contributed to confer on this branch of philosophy a perspicuity and precision, which are of the utmost importance in studying the human mind.

On the subject of *causation* Mr. Hume has thrown new light. Some of his reasonings, indeed, on this subject, were suggested by Malebranche, and, even at a still earlier period, by Bacon and Hobbes. Ideas, also, similar to some of those which he advanced, were thrown out by Barrow, Butler, Berkeley, and others. But Mr. Hume has the merit of having first clearly shown to philosophers that our common language, with respect to cause and effect, is merely analogical; and that, if there be any links among physical events, they must for ever remain invisible to us. Nor is the justness of this doctrine to be doubted on account of the sceptical inferences which its author has deduced from it: his error, in this case, does not so

* Reid's *Essays*, ii.

much lie in his premises as in the conclusions which he draws from them. In fact, if this part of his system be admitted; and if, at the same time, we admit the authority of that principle of the mind which leads us to refer every event to an efficient cause; his doctrine conducts us to a result more sublime, more favourable to piety, and more consistent with sound philosophy, than the opinion commonly held on this subject*.

On observing the sceptical conclusions which Berkeley and Hume had drawn from the old theory of perception, as it had been taught in substance by all writers, from Pythagoras down to their time, some philosophers of Great Britain were led, about the middle of the eighteenth century, to call this theory in question. If it were assumed as true that we perceive, not external objects themselves, but only the ideas in our minds, they saw no method of avoiding the consequences which had been so daringly admitted. They, therefore, denied the grand doctrine on which the whole superstructure they wished to oppose was built; and endeavoured to show, that as the premises were gratuitously assumed and false, so the conclusions deduced from them were absurd and impossible. This controversy, doubtless, deserves to be considered among the most memorable of the age; and if the principles and reasonings of certain modern metaphysicians of North Britain, to the publication of which this controversy has given rise, be regarded as just, they certainly form the most important accession which

* Stewart's *Philosophy of Mind.* Notes C. and D.

the philosophy of mind has received since the time of Mr. Locke.

At the head of these British philosophers stands Dr. Reid *, who first, in his *Inquiry into the Human Mind on the Principles of Common Sense*, and afterwards in his *Essays on the Intellectual and Active Powers of Man*, gave a display, and attempted a refutation of the sceptical philosophy, which no one who suitably estimates the importance of the subject can peruse without profound respect for the author, and the deepest interest in his reasonings. He totally rejected the ideal system, or theory of perception, as taught by his predecessors, and maintained that the mind perceives not merely the ideas or images of external objects, but the external objects themselves; that when these are presented to our senses they produce certain impressions; that these impressions are followed by correspondent sensations; and these sensations by a perception of the existence and qualities of the objects about which the mind is employed. He contended that all the steps of this process are equally incomprehensible; that we can assign no

* Thomas Reid, D.D. was born at Strachan, in Kincardineshire, April 26, 1710. He was educated at the University of Aberdeen, and for a number of years held the pastoral charge of the congregation of New Machar, in the neighbourhood of that city. He was chosen professor of moral philosophy in the university of Glasgow in 1763. His *Inquiry into the Human Mind, on the Principles of Common Sense*, was published in 1764; his *Essays on the Intellectual Powers of Man*, in 1785; and his *Essays on the Active Powers*, in 1788. He died October 7, 1796, in the 87th year of his age. Few men, since the days of Locke, have discovered talents more eminently fitted to explore the regions of mind than this philosopher.

other reason for these facts taking place, but that such is the constitution of our nature; and that when sensible objects are presented to us, we become persuaded that they exist, and that they possess the qualities which we witness, not by a train of reasoning, by formal reflection, or by association of ideas; but by a direct and necessary connection between the presence of such objects and our consequent perceptions. In short, the great and distinguishing peculiarity of this class of metaphysicians is, that they appeal from the delusive principles and shocking conclusions of their opponents, to the *Common Sense* of mankind, as a tribunal paramount to all the subtleties of philosophy. The same principle they apply to memory, and other powers of the mind.

It is obvious, from this view of Dr. Reid's labours, that, although he has taken much pains to overturn the old theory of perception, he has not ventured to substitute any theory of his own in its place. Indeed it would have been inconsistent with his leading doctrine to have attempted this. His aim rather was to give a simple and precise statement of facts, divested of all theoretical expressions; to show how long philosophers have imposed on themselves by principles gratuitously assumed, and by words without meaning; and to convince them that, "with respect to the process of nature in perception, they are no less ignorant than the vulgar." Nor let any slight this as a mere negative and unimportant discovery. If it be founded in truth, "few positive discoveries in the whole history of science can be mentioned, which have a juster claim to high reputation than

that which has detected, so clearly and unanswerably, the fallacy of an hypothesis, which has descended to us from the earliest ages of philosophy, and which, in modern times, has not only served to Berkeley and Hume as the basis of their sceptical systems, but was adopted as an indisputable truth by Locke, by Clarke, and by Newton *.”

Beside the doctrine of *perception*, stated in the above-mentioned page, Dr. Reid's system is distinguished by a view of the powers of the mind, or of the sources of our ideas, which differs considerably from the systems of his predecessors. Instead of dividing the intellectual powers into *simple apprehension*, *judgment*, and *reasoning*, as the greater number of metaphysical writers have done since the days of Aristotle, he considers this division as far from embracing all the phenomena of mind. He does not, indeed, attempt a complete enumeration of all the powers of the human understanding; but supposes that there are at least *nine*; *viz.*

1. The powers we have by means of our external senses.
2. Memory.
3. Conception.
4. The powers of resolving and analysing complex objects, and

* *Elements of the Philosophy of Mind*, by Dugald Stewart, F.R.S.E. &c., p. 94, 4to, 1792. In adopting, from professor Stewart, this high praise of Dr. Reid, and his writings on the human mind, I would by no means be understood to express unqualified approbation of his philosophy. To me his *Essays on the Active Powers of Man* have always appeared much inferior to those on the *Intellectual Powers*. Indeed in the former there are several doctrines which I must consider as entirely erroneous. But of thus guarding and qualifying our approbation there is no end. Speaking of Dr. Reid's works in general, they are certainly among the most instructive and valuable metaphysical writings of the age.

compounding those which are more simple. 5. Judging. 6. Reasoning. 7. Taste. 8. Moral perception. 9. Consciousness.—Each of these he supposes to be an original and distinct power, not resolvable into any one or more of the rest.

This may be pronounced an important step in the progress of metaphysical science. Incalculable injury has been done to various branches of philosophy by injudicious attempts to reduce numerous facts and principles to one or two classes, when they do not admit of such plausible simplification, and when they can be considered with advantage only in detail. The progress of medical science has been retarded by too close an adherence to systems of nosological arrangement. Chemical philosophy may also be said to have been disserved by premature attempts to form a regular classification of its phenomena. Metaphysicians have fallen into a similar mistake. One writer on the human mind tells us that all its operations may be explained by referring them to *sensation* and *reflection*. Another would derive all our ideas from *sensation* only ; while a third would account for every intellectual exercise, by ascribing them to *vibrations* of a stronger or weaker kind. Though some of these writers approach much nearer to the true doctrine of mind than others, they are all erroneous ; and many of their mistakes arise from aiming at a simplicity of which the subject does not admit. The works of the Author of Nature can be contemplated by us only in detail : and the process of generalisation, though always pleasing to human pride, and sometimes, in a degree, just and useful ; yet, when

carried beyond a certain length, is, doubtless, calculated to deceive the inquirer, and to countenance the most mischievous errors.

Dr. Reid was enabled to present the improved views of the science of mind, which his works contain, by pursuing a method of inquiry which he first applied to this subject. The inductive plan of investigation, recommended by Bacon, had been long before applied to the physical sciences; and a few writers, from the beginning till the middle of the eighteenth century, had suggested the propriety of attempting to explore, on similar principles, the phenomena of the intellectual world. But Dr. Reid is asserted to have been the first person “who conceived justly and clearly the analogy between these two different branches of human knowledge; defining with precision the distinct provinces of observation and of reflection, in furnishing the *data* of all our reasonings concerning matter and mind; and demonstrating the necessity of a careful separation between the phenomena which they respectively exhibit, while we adhere to the same mode of philosophising in investigating the laws of each *.

It ought in justice to be stated, that Dr. Reid, however great his merit for illustrating and defending the doctrine of *Common Sense*, as taught in his metaphysical writings, was by no means the first who resorted to this method of opposing the sceptical philosophy of the age. Father Buffier, a learned and ingenious jesuit of France, early in the century espoused a doctrine substantially the

* Stewart's *Life of Reid*, p. 48.

same, and announced it in his "*First Truths*," as the only ground that could be taken in order combat successfully des Cartes, Malebranche, and Locke. It must be owned, indeed, that Buffier does not always speak of this faculty or power in man in precisely the same terms with Dr. Reid and his followers, nor can their different accounts of the subject be in every case fully reconciled; yet there is, doubtless, such a similarity between the ideas of the learned Jesuit and those of the celebrated British divine, that the merit of *originality* can hardly be yielded to the latter*. To Dr. Reid, however, and some contemporary philosophers, the honour undoubtedly belongs of having more fully explained the grand principle upon which their system turns; of having extended its application; and of having deduced its consequences in a more explicit and systematic manner†.

* See *Additional Notes*—(I I.)

† See *First Truths*, &c., translated from the French of Pere Buffier by an anonymous hand, 8vo, London, 1780. The translator of this work, in a long prefatory discourse, endeavours to fasten the charges of *Plagiarism*, *Concealment*, and *Ingratitude*, on doctors Reid, Beattie, and Oswald, with a degree of zeal, acrimony, and contemptuous sneer, by no means honourable to himself. He represents them as indebted to Buffier for the substance of all they have written. Whoever this violent assailant is, he certainly does them injustice. To exculpate those gentlemen wholly from the charge of *plagiarism* would not perhaps be easy; but to push the charge so far as he does, and especially to treat their general character and merits as he permits himself to do, cannot fail to disgust every candid reader. After all that he has advanced concerning pere Buffier, the impartial inquirer will find such a degree of originality in the works of the celebrated Scottish metaphysicians, especially those of Dr. Reid, as ought to secure to them a high and lasting reputation.

The

Since the publication of Dr. Reid's philosophy, it has been espoused and defended by several distinguished metaphysicians, especially in Great Britain. Among the most able of these is Dr. Dugald Stewart, professor of moral philosophy in the university of Edinburgh. It was before remarked, that Dr. Reid, after demolishing the doctrines of his predecessors, and laying the foundation of a new system, forbore to undertake the erection of an improved superstructure on this basis. Professor Stewart, though far from having, in his own estimation, completed such a superstructure, is yet considered as having done something towards it, and as having rendered substantial service to the philosophy of mind. He has carried some of his doctrines to a greater length than they were carried by his great predecessor, and in some important particulars he dissents from that able pneumatologist *.

The principles of Dr. Reid have also been adopted, and perspicuously displayed by Dr. Beattie, in

The late Dr. Witherspoon, president of the college of New Jersey, whose vigour and originality of mind are generally known, once informed a friend that the first publication in Great Britain in which Reid's leading doctrine was suggested, and in a degree developed, was an *Essay* written by himself, and published in a Scottish magazine, some years before Dr. Reid wrote on the subject. Those who are acquainted with the talents of the illustrious president, and who know how remote his disposition was from that vanity and arrogance which prompt men to make false pretensions, will probably, without hesitation, accredit his claim.

* It is not easy, in this place, to point out the particulars in which Dr. Stewart differs from Dr. Reid. The reader will receive satisfactory information on this subject by looking into those chapters in Stewart's *Elements of the Philosophy of the Mind*, which treat of *Conception*, *Abstraction*, and *Association*.

his *Essay on Truth*, and other publications; by Dr. Oswald, in his *Appeal to Common Sense in Behalf of Religion*; by lord Kames, in his *Sketches of the History of Man*; by Dr. A. Ferguson, in his *Principles of Moral and Political Science*; and by some other respectable writers.

A system of pneumatology, partly belonging to the eighteenth century, from the noise which it made, and the speculations which it excited during that period, is that of the celebrated Leibnitz, a philosopher of Germany*, who was mentioned in a former chapter†. This system appears to have been formed by its author with a view, on the one hand, to amend the theory of des Cartes, and on the other to oppose the doctrines of Newton. Leibnitz conceived the whole universe, minds as well as bodies, to be made up of *monads*, that is,

* In chronological strictness the system of Leibnitz ought to have been noticed before those of Berkeley, Hume, and Reid; but as the latter stood in close connection with the doctrines of Malebranche, and as it did not appear expedient to interrupt the course of narration respecting them, it has been judged proper to introduce a brief account of the doctrines of the illustrious German in this place.

† Godfrey William Leibnitz was born at Leipsic, in Saxony, in the year 1646. He was a prodigy of learning, had an astonishing memory, and possessed great vigour and versatility of talents. His works are very voluminous. His doctrines concerning the mind may be gathered from his *Theodicea*, published towards the close of the seventeenth century. The system of philosophy taught in this work was designed partly in emendation of the Cartesian, and partly in opposition to the Newtonian. Leibnitz retained the subtle matter, the universal plenitude, and the vortices of des Cartes, but differed in some respects from that philosopher. But against sir Isaac Newton his scientific warfare was principally directed.—He died in the year 1716.

simple substances, each of which is, by the Creator, in the beginning of its existence, endowed with certain active and perceptive powers. A monad, therefore, is an active substance, simple, without parts or figure, which has within itself the power to produce all the changes it undergoes, from the beginning of its existence to eternity. The changes, according to him, which the monad undergoes, of whatever kind, though they may seem to us the effects of causes operating from without, yet are only the gradual and successive evolutions of its own internal powers, which would have produced all the same changes and motions, although there had been no other being in the universe. He taught that every human soul is a monad, joined to an organised body, which organised body consists of an infinite number of monads, each having some degree of active and perceptive power in itself; but that the whole machine of the body has a relation to that monad which we call the soul, which is, as it were, the centre of the whole. He further supposes that there are different orders of monads, some higher, and others lower. To the higher orders he gave the name of *dominant*, and to this class belongs the human soul. Those which make up the organized bodies of men, animals, plants, &c., he contended were of a lower order, and subservient to the dominant monads. But every monad, of whatever order, he represented as a complete substance in itself, having no parts, and indestructible by any power less than divine, which there is no reason to believe will ever be exerted in the

annihilation of any being which it has created. Finally, he maintained that monads of a lower order may, by a regular evolution of their powers, rise to a higher order; that they may be successively joined to organised bodies of various forms, and different degrees of perception; but that they can never die, or cease to be, in some degree, active and percipient.

This philosopher distinguished between *perception* and *apperception*. The former he supposed common to all monads. The latter, implying consciousness, reflection, and a capacity to comprehend abstract truths, he believed to be peculiar to the higher orders, such as the soul of man. He conceived that our bodies and minds are united in such a manner, that neither has any physical influence on the other, each performing all its operations by its own internal powers; yet the operations of one corresponding exactly with those of the other, by a preestablished harmony. According to this system, all our perceptions of external objects would be the same, though those objects had never existed, or though they should, by divine power, be annihilated. We do not perceive external things because they exist, but because the soul was originally so constituted as to produce in itself all its successive changes and perceptions independently of external objects. Every operation of the soul is the necessary consequence of that state of it which preceded the operation; and that state the necessary consequence of the state immediately preceding it, and so backwards, till we come to its first constitution, which produces successively, and by necessary consequence,

every successive state throughout the whole course of its existence*.

This system, for many years after its publication, excited uncommon attention, and obtained great currency, especially in the native country of the author. It was early espoused by Christian Wolfe†, a celebrated philosopher, also of Germany, a very voluminous commentator on the writings of his master, and a zealous defender of his doctrines. On the foundation of these doctrines he formed a new system of cosmology and pneumatology, digested and demonstrated in a mathematical method. The principles of Leibnitz had also some advocates, either in whole or in part, in other parts of the continent of Europe, and in Great Britain, for a considerable time. But at the close of the eighteenth century their repu-

* Reid's *Intellectual Powers of Man*, Essay ii.

† Christian Wolfe, a native of Breslau, in Germany, was born in the year 1679. He was a follower of Leibnitz, and wrote largely in defence of his philosophical opinions. At the age of 26 Wolfe had acquired so much reputation as to be appointed professor of mathematics in the university of Halle, and soon afterwards professor of philosophy in general in the same institution. His famous work, entitled *Thoughts on God, the World, and the Human Soul*, in which his metaphysical doctrines are delivered, was published in 1719. Accused of heresy, on account of his holding the doctrine of *necessity*, and some other obnoxious opinions, he was banished from the Prussian dominions in 1723. For a number of years after this event Germany was filled with disputes concerning his opinions, and the treatment which he had received; and the names of *Wolfians* and *Antiwolfians* were every where heard. In 1732, the current of public opinion turning in his favour, he was recalled from his exile, and appointed vice-chancellor of the university of Halle. In 1745 he was raised to the office of chancellor of the university, and created a baron, by the elector of Bavaria.—He died in 1754.

tation had much diminished, and they were adopted by comparatively few in any part of the philosophical world.

Contemporary with Wolfe was the celebrated George Ernest Stahl, professor of medicine in the university of Halle. He was distinguished not so much by any new doctrine concerning the nature and powers of the mind (for it is even uncertain what were the opinions which he held on this subject), as by entertaining the singular idea that the soul presides over, and governs, the whole economy of the body, both in health and disease. To the will he referred all the vital functions, and contended that if there be instances in which we will an effect, without being able to make it an object of attention, it is possible that what we call vital and involuntary motions may be the consequences of our own thought and volition. He supposed that the influence of the soul is extended to every part of the system by means of the nerves; and that, when their action is impeded or deranged, disease is the unavoidable consequence. These opinions of Stahl were adopted, particularly by a number of medical philosophers in different parts of Europe; but at the close of the century there were few or none who professed an adherence to them.

Among the great theorists in pneumatology which belong to this period, the celebrated Dr. Hartley also holds a conspicuous place*. The two grand principles on which his whole system

* Dr. David Hartley was born in Yorkshire, August 30, 1705, and died at Bath, August 28, 1757. His great work, the *Observations on Man*, was published in 1749. He was educated with a

rests, are those of *vibration* and *association*. Newton had taught that the rays of light, falling upon the bottom of the eye, excite *vibrations* in the *retina*, and that these vibrations, being propagated along the optic nerves into the brain, produce the sensation of seeing*. Dr. Hartley adopted this hypothesis, and applied it, with ingenious additions and modifications of his own, to the other senses. Mr. Locke had thrown new light on the doctrine of *association*, and shown its great influence and importance in the operations of the human mind. Dr. Hartley also adopted the leading ideas of this great metaphysician on this subject, and by uniting them with the Newtonian opinions, formed a system on which the praise of great ingenuity and plausibility has been bestowed.

He taught, that the white medullary substance of the brain, spinal marrow, and the nerves proceeding from them, form the immediate instrument of sensation and motion; that whatever changes are produced in this substance, corresponding changes take place in our ideas; that external objects impressed upon the nerves occasion, first in

view to the clerical profession, in the church of England; but feeling some scruples about subscribing to the thirty-nine articles, he relinquished that design, and devoted himself to the study and practice of medicine, in which he was eminent. While he departed from the public standards of his church in several important particulars, he was much distinguished for the force of his mind, the extent of his learning, the amiableness and benevolence of his disposition, and the purity of his moral character. He was a firm believer in Revelation, and wrote, though not with orthodoxy, yet with great seriousness and ability in its defence.

* See *Additional Notes*—(KK.)

the nerves on which they are impressed, and then in the brain, *vibrations* of the small and infinitesimal medullary particles, which vibration excites a sensation in the percipient principle, which remains as long as the vibration lasts, that is, as long as the object continues to affect the organs of sense. That the medullary substance having once vibrated in a particular manner, does not return entirely to its natural state, but continues disposed to vibrate in that manner rather than any other, which tendency of the brain to the renewal of the vibration is the cause of the retention of the idea in the absence of the archetype. That whatever renews the vibration, renews also the perception; but the renewed vibration being less vigorous than the original one, is called a *miniature vibration*, or *vibratiuncle*, and the renewed perception corresponding with it is called an *idea*. That vibrations may be revived not only by the repetition of external impressions, but by their *association* with each other; and that, of vibrations which have been associated together a sufficient number of times, either synchronously, or in succession, if one be excited, it will excite the miniatures of all the rest. This is supposed to furnish a solution to all the phenomena of the association of ideas.

According to this theory the nerves are divided into two classes, *sensory* and *motory*; the former being the immediate instruments of sensation, the latter of motion. Both originate in the medullary substance of the brain, and their vibrations influence and modify each other. In short, every sensation, idea, muscular motion, affection, and internal feeling, whatever, is supposed, by Dr. Hart-

ley, to correspond with some vibratory state of the medullary substance, so that the one may be regarded as the exponent of the other*.

Though this system contains many ideas which bear a near relation to the theories of des Cartes, Malebranche, and Leibnitz †; and though its two fundamental principles are derived from the works of Newton and Locke, yet the author has a considerable claim to the character of originality. His doctrines, combined as they are, and formed into a fair structure, belong to himself, and certainly present some new and useful truths. It seems to be the opinion of many that he ought to be classed with the *materialists* of the age, and it is not easy to assign him any other place. This, indeed, is contrary to his own express declarations. He was apprehensive lest the doctrine of corporeal vibrations, which forms so prominent a feature of his work, should be deemed favourable to materialism. “He was therefore anxious to declare, and to have it understood, that he was no materialist‡.” Notwithstanding this declaration, how-

* *Observations on Man*, vol. i. See also Belsham's *Elements of the Philosophy of Mind*, &c., 8vo, 1801.

† *Observations on Man*, vol. i p. 110, and 111, Edit. Lond. 1791.

‡ The following passage is extracted from the *Life* of Dr. Hartley, published with the last edition of his work.

“There was but one point in which he appeared anxious to prevent any misapprehension of his principles: that point respected the immateriality of the soul. He was apprehensive lest the doctrine of corporeal vibrations being instrumental to sensation should be deemed unfavourable to the opinion of the immateriality of the soul. He was therefore anxious to declare, and to have it understood, that he was not a materialist. He has not presumed to declare any sentiment respecting the nature of the

ever, it is difficult to reconcile his doctrines with the immateriality of the soul. Good judges have pronounced that if these doctrines be pursued to their natural consequences, they must terminate in absolute Spinozism. Accordingly it is well known that some of the most distinguished materialists of the age not only profess to admire Dr. Hartley's work, but also adopt his reasonings, and acknowledge him as their great master.

Another metaphysical system which deserves to be mentioned among the curiosities of the age is that adopted and published by lord Monboddó, a celebrated and voluminous writer of North Britain. This system is, in fact, little more than a revival of what his lordship considers the Aristotelian philosophy, or the doctrine of *Universals*, with the addition of some crude and absurd visions of his own, which have been little studied, and still less respected by those who are competent to judge.

Lord Monboddó analyses sensible objects into *matter* and *form*, and teaches, like most of the disciples of the Stagirite, the eternity of both. He insists that there are in man *four* distinct minds,

soul, but the negative one, that it cannot be material according to any idea or definition that we can form of matter. He has given the following definition of matter, *viz.* 'That it is a mere passive thing, of whose very essence it is to be endued with a *vis inertia*; for this *vis inertia* presents itself immediately in all our observations and experiments upon it, and is inseparable from it, even in idea.' The materiality therefore of the sensitive soul is precluded, by the definition of matter being incapable of sensation. If there be any other element capable of sensation, the soul may consist of that element; but that is a new supposition, still leaving the original question concluded in the negative, by the fundamental definition of matter."

viz. the *elemental*, the *vegetable*, the *animal*, and the *intellectual*; that of these the *intellectual* only is immortal; that the soul is not created for any particular body, but transmigrates from one to another; that there are different orders of minds; those which occupy earths and stones, and those which reside in plants, and the inferior animals up to man; that gravitation is nothing more than the activity of a soul residing in, and animating, masses of earth; and that it is more honourable to the deity to consider him as operating in all the departments of nature, by the instrumentality of inferior minds, than to represent him as acting on matter immediately. Whether the souls of men transmigrate to the bodies of brutes he is doubtful; but that the souls of vegetables and inferior animals each transmigrate from one to another of their own species, and perhaps from a lower to a higher, and *vice-versâ*, he thinks there is abundant reason to believe.

So far as lord Monboddo agrees with the Aristotelian philosophy, he talks with a semblance of reason, and may be read with patience. But the extraordinary consequences which he draws from this ancient system of pneumatology, the capricious use which he makes of it, and his visionary and fantastic additions to it, render his work as singular a mass of good sense and absurdity, erudition and ridiculous credulity, as any age ever produced*. Mr. James Harris, in his *Hermes*, and in

* See *Ancient Metaphysics*, 5 vols, 4to. From the singular opinions which abound in this learned and extensive work, the following selection is offered to the reader as a specimen. That the *ourang outang* is a man not civilised; that men originally had

his *Philosophical Arrangements*, strove with equal zeal, nearly about the same time, to revive the philosophy of Aristotle, but without so strangely distorting its features, or incumbering it with such heterogeneous and whimsical additions.

Among the new metaphysical theorists of the age, it would be improper to pass in silence the celebrated Immanuel Kant, professor at Koenigsberg, in Prussia *. This gentleman, about the year 1781, first published a system of metaphysics and moral philosophy, which has been ever since gaining ground among the literati of Germany, and is now much in vogue in that country. Professor Kant, we are told, was led to the train of thinking, which ripened in his mind into the system which bears his name, by the perusal of Hume's essay on the idea of necessary connection ; and of Priestley's reply to Reid, Beattie, and Oswald †.

tails, and went upon *all fours* ; but that the one dropped off, and they rose from the other to an erect posture by the progress of civilisation ; that the natural state of man is to live without habitation, clothing, fire, or language ; that his best and only proper food is raw vegetables ; that there have been giants of two or three, and in some instances of eight or nine, times the height of ordinary men in these degenerate days ; that there are now hordes of men with *tails*, and whole nations who have but one leg ; that in Ethiopia there are men who have their eyes in their breasts, and others who have only one eye, and that in their forehead ! &c.

* Immanuel Kant was born in 1724, and is still living. His philosophy has excited almost as much attention as that of Wolfe did eighty years ago, and has called forth the talents of many of the most eminent men of Germany, for and against it.

† *Elements of the Critical Philosophy*, &c., by J. C. Adelung, translated, with additions, by A. F. M. Willich, M. D. Lond. 8vo, 1798.

But from whatever source his ideas are derived, he has formed them into a fabric, which is extolled by his adherents as one of the most sublime efforts of human genius, and as ranking among the most important improvements ever made in science. If we may believe the extravagant panegyrics of these enthusiastic disciples, he has more successfully explored the darkest recesses of the human mind than any individual amongst all his illustrious predecessors, and his writings contain a developement of precisely those truths after which mankind have been seeking for centuries in vain.

“ Still, however, when inquiry is made among the followers of this singular man, respecting the general drift of his system, they answer chiefly in negations. It is *not* atheism ; for he affirms that practical reason is entitled to infer the existence of a Supreme Intelligence. It is *not* theism ; for he denies that theoretical reason can demonstrate the existence of an infinite intelligent Being. It is *not* materialism ; for he maintains that time and space are only forms of our perception, and not the attributes of extrinsic existences. It is *not* idealism ; for he maintains that noumena are independent of phenomena ; that things perceptible are prior to perception. It is *not* libertinism ; for he allows the will to be determined by regular laws. It is *not* fatalism ; for he defines this to be a system in which the connection of purposes in the world is considered as accidental. It is *not* dogmatism ; for he favours every possible doubt. It is *not* scepticism ; for he affects to demonstrate what he teaches. Such are the indefinite evasions of this

school*.” The disciples of this celebrated professor assure us that their system is so profound and extensive, that the acutest understanding cannot tolerably comprehend it by less than a twelve-month’s study; and that to become a thorough master of its subtle and recondite principles, requires the unwearied labour of many years. After such a declaration, it would be presumptuous for one but slightly acquainted with the subject to attempt an exhibition even of the outlines of this plan. But not to omit all notice of so celebrated a system, it may be proper to state the following doctrines, as among the elementary principles which it contains.

Professor Kant teaches “that all men have a certain innate faculty, consisting in the capacity of the soul to receive immediate representations of objects; that the representations which this sensitive faculty affords us are perceptions; that all our perceptions have a twofold form, *space and time*; that this faculty ought to be called *theoretical reason*, or *speculative understanding*; and that it is of so limited a nature that it cannot perceive any thing beyond the two forms already mentioned, one of which belongs to the perception of our internal, and the other to that of our external, senses. He maintains, that the objects which we perceive in space exist not externally, but only internally; they are mere phenomena, but cannot be said to be only ideal, nor to have no objective reality; because they depend on established laws, and real principles. When, therefore, they are said to exist,

* *Monthly Review* of London, vol. xxviii, N. S. p. 62, 1799.

no more is meant than that they are perceived in space, or in the form of external organisation. He believes, that as the nature and form of our perceptions are determined by the nature of our sensible faculty, so the form of our thoughts, or the manner in which we judge concerning phenomena, or arrange our perceptions, is determined by the nature of our theoretical reason ; and as that which, when knowledge is obtained by means of the senses, gives a form to the matter perceived, is called a *pure perception* ; so that by which we determine the connection of our observations, and form a judgment concerning them, is called a *pure notion*, or *category*. Those pure notions which are discoverable by an analysis of the judgment, may be reduced to notions of quantity, quality, relation, and modification. These categories, considered abstractedly, are not deduced from our perceptions and experience, but exist in the mind prior to these latter, and experience is the result of their combination with our perceptions : but it is only in connection with our perceptions that these pure notions can be the source of knowledge ; for, in themselves, they are mere forms, without any independent existence. They serve to direct us in the use of our observations ; but they cannot extend our knowledge beyond the limits of perception and experience.

“ There are, according to professor Kant, two kinds of propositions, concerning which our minds may be employed, analytical and synthetical. The former are those in which we only explain or illustrate that of which we have already some idea ; whereas, in the latter, we increase our knowledge,

by adding something new to our former idea of the subject. Thus, when we say *all matter is extended*, we form an *analytical* proposition; and when we say *all bodies have a certain weight*, that is a *synthetical proposition*.

“ Without experience we cannot form any synthetical proposition concerning the objects or matter of our knowledge; but, as the forms of our knowledge are independent of and prior to our experience, we may, with respect to the pure notions already mentioned, conceive synthetical propositions, or acquire pure science; and indeed it is only when we have pure perceptions and pure notions for our objects, that we can arrive at universal and necessary certainty; as is the case in pure mathematics and philosophy, in which we consider truth, abstracted from matter, with respect only to the forms or laws of knowledge and volition.

“ Beside theoretical reason, prof. Kant ascribes to man another faculty, which he calls practical reason, endued with power sufficient to impel and direct the will. He asserts that, if this faculty were not granted, it would follow that practical laws would not be universal moral precepts, but only particular maxims, which individuals might prescribe to themselves as the rule of their conduct. To these universal moral laws, practical reason commands our implicit obedience, without any regard to our inclinations or views of advantage. These are, indeed, sometimes at variance with the dictates of duty, but, in order to diminish their influence as obstacles to virtue, our practical reason must determine us firmly to believe the existence

of the deity, and of a future state in which our happiness will be proportioned to our internal worth. This is what our philosopher calls *rational faith*, as it is independent of all knowledge of its object; for the principles of religion can be neither demonstrated nor disproved by theoretical reason, but are mere postulates of practical reason; and the only theology that is really founded on our understanding is moral theology, which depends on moral principles *."

The complaint that all this is obscure, and scarcely intelligible, will probably be made by every reader. An English philosopher tells us that it would require more than ordinary industry and ingenuity to make a just translation, or a satisfactory abstract of the system in question, in our language; that for this purpose a new nomenclature, more difficult than that of the Linnæan botany, must be invented. This circumstance itself affords strong presumption against the rationality and truth of the Kantian philosophy. Locke and Newton found little difficulty in making themselves understood. Every man of plain good sense, who is used to inquiries of that nature, readily comprehends their systems, in as little time as it requires to peruse their volumes. Even Berkeley and Hume, with all their delusive subtleties, found means to render themselves easily intelligible. — Is there not reason, then, to suspect either that the system of professor Kant is made up of heterogeneous, inconsistent, and incomprehensible mate-

* The above brief account of the *Kantian* system of *pneumatology* is extracted from a *British Literary Journal*.

rials; or that, in order to disguise the old and well known philosophy of certain English and French writers, and to impose it on the world as a new system, he has done little more than present it under a new technical vocabulary of his own? Or, which is, perhaps, not the most improbable supposition, that, being sensible of the tendency of his philosophy to undermine all religion and morals, as hitherto taught and prized in the world, he has studied to envelope in an enigmatic language a system which he wishes to be understood by the initiated alone; a system which has been pronounced “an attempt to teach the sceptical philosophy of Hume in the disgusting dialect of scholasticism?” At any rate, notwithstanding all the unwearied pains which some of the disciples of this famous Prussian have taken, to rescue him from the imputation of being one of the sceptical philosophers of the age, the most impartial judges will probably assign him a place among those metaphysical empirics of modern times, whose theoretical jargon, instead of being calculated to advance science, or to forward human improvement, has rather a tendency to delude, to bewilder, and to shed a baneful influence on the true interests of man.

The system of Kant has found numerous friends and commentators, particularly in Germany, who contend that it sets limits, on the one hand, to the scepticism of Hume; while, on the other, it refutes and overturns materialism, fatalism, and atheism, as well as fanaticism and infidelity. Among those who have distinguished themselves

as the friends and advocates of this system, professor Reinhold, of Kiel; professor Schmid, of Jena; professor Born, of Leipsic; professor Jakob, of Halle; professor Beck, of Rastock; and Messrs. Will, Reimarus, Mellin, and Adelung, hold a conspicuous place. On the contrary, among its opponents we find the names of professor Plattner, of Leipsic; professor Tiedemann, of Marburg; professor Flatt, of Tübingen; professor Selle, of Berlin; professor Maas, of Halle; and of Messrs. Feder, Eberhard, Herder, and others. The controversy to which the *Critical Philosophy* has given rise, as it has produced a multitude of voluminous publications, so it will long be ranked among the most curious and interesting of the age.

In the latter half of the century under consideration, a new doctrine concerning the human mind was announced, which is entitled to some notice in this place. This doctrine, it is believed, was first adopted and advanced by M. Helvetius, a celebrated French writer*. He was followed by

* Claude Adrian Helvétius was born in Paris, in the year 1715. In the year 1758 he produced his first work, entitled, *l'Esprit*, which, on account of its *atheistical* principles, was condemned by the parliament of Paris. The odium which he incurred hereby induced him to visit England in 1764, and thence he went to Prussia, where he was very favourably received by the king. On his return to France he led a retired life in the country, and died in 1771. His treatise on *Man*, formed on the same principles with his first work, was published a short time before his death. He wrote a poem, in six cantoes, entitled *Le Bonheur*, which was published in 1772. Helvetius may be regarded as one of the earliest and most conspicuous of the advocates for that system of *materialism*, and of *atheistical reveries*, usually called the *new philosophy*.

M. Condorcet*, and some others, also of France; by means of whose writings it obtained considerable currency among the literati of that country, and was afterwards embraced and defended, with much plausibility, by Mr. Godwin†, and others, of Great Britain‡.

The advocates of this doctrine maintain the *Perfectibility of Man*. With regard to the nature of the human mind they appear, in general, to embrace the system of *materialism* §. They suppose that the thinking principle of man is the result of corporeal organisation; that the difference in minds results from the difference of this organisation, and more especially from the subsequent circumstances and education of the individual; that by means of the diffusion of knowledge, and the adoption of better principles and modes of education, the improvement of man in intellect, in virtue, and in happiness, will go on to an illimitable extent; that, at length, mind shall become “omnipotent over matter,” perfect enjoyment assume the place of present suffering, and human life, instead of being

* *Outlines of an Historical View of the Progress of the Human Mind*, 8vo, 1795.

† *Inquiry concerning Political Justice*, second edit. 2 vols, 8vo, 1796.

‡ It is not meant to be asserted that all these writers agree with respect to the details of their several systems; but that they concur in asserting the *omnipotence of education*, and the *perfectibility of man*.

§ Some of those who profess a belief in the *perfectibility of man* appear to be in doubt with respect both to the *immateriality* and *immortality* of the soul. They are so busied about the improvement of man in this world, that they have little time, and less inclination, to bestow a thought on his destiny and prospects in that which is to come.

bounded by a few years, be protracted to immortality, or at least to an indefinite duration.

This system is unsupported by any facts ; it is contrary to all the experience of mankind * ; it is opposed to every principle of human nature, and it is scarcely necessary to add, to the plainest dictates of Revelation. That man may, and probably will, make great improvements hereafter, in science and art, is readily admitted. That we cannot presume to assign the bounds of this improvement is also admitted. But that there will be absolutely no bounds to it, or, which is the same thing as to the argument, that it will go on beyond all assignable or conceivable limits, is to suppose the constitution of man essentially changed, his present wants, habits, and mode of subsistence, totally superseded, and a nature conferred upon him wholly different from that which his Creator gave him. But as the doctrines held by the advocates of human *perfectibility* become still more important when considered with respect to their moral and political application, the further consideration of their extravagance, weakness, and inconsistency, and the injurious consequences arising from their adoption, will be attended to in a subsequent part of the sketch †.

* It is somewhat curious that many of those who adopt the opinion concerning man which is here opposed, believe, at the same time, that this world has existed from eternity. If, amidst eternal revolutions, and eternal progress, mankind have not yet risen above the rank at which we now behold them, there seems little encouragement to hope for any thing like what they anticipate in future.

† Some further remarks on this delusive system will also be found under the head of *Education*, in the present volume. But

During the last age several detached parts of the philosophy of mind have been illustrated in a manner greatly superior to the attempts at explanation made in former periods. Perhaps there is no subject to which this remark more forcibly applies than to the great question of *Liberty* and *Necessity*, which, through so many successive ages, has served to puzzle the acutest metaphysicians. Never, probably, was any point more largely, ably, and profoundly discussed. The writings of Leibnitz, Collins, Hume, Hartley, Priestley, and Belsham, on the side of moral *necessity*; and of Clarke, Butler, Reid, Beattie, de Luc, Gregory, and Horsley, in favour of *liberty*, are well known, and form very important materials in the metaphysical history of the age. But the greatest work which the century produced on this subject, and certainly among the ablest ever written on any department of philosophy, is that by the celebrated American divine, Mr. Jonathan Edwards, for some time president of the college of New Jersey. This gentleman wrote on the side of moral *necessity*, or against the self-determining power of the will; and investigated the subject with a degree of originality, acuteness, depth, precision, and force of argument, which the accurate reader cannot contemplate but with astonishment. It will not be said that he has brought to an issue a controversy which will probably last as long as men exist on earth; but that he has thrown much new light on the subject will be questioned by

in the *third* division of the work, in which it is proposed to take a view of the *moral* principles and establishments of the eighteenth century, a more particular consideration of it will be attempted,

none; and that he has approached as near to a *demonstration* that the doctrine of moral *necessity* (as explained and guarded by him) is the only scriptural and philosophical doctrine on this subject, as the nature of such inquiries admits, is certainly the opinion of some of the best judges in every part of the literary world *. The extremes to which the system of the venerable president has been carried by several subsequent writers, and the consequences deduced from it, were far from being recognised by him; and with respect to some of them, they are, beyond all doubt, illegitimately drawn.

It is worthy of remark that Mr. Edwards appears to have been the first *Calvinist* who avowed his belief so fully and thoroughly in the doctrine of moral necessity as his book indicates †. Though all Calvinistic writers before his time were characterised by a firm adherence to the doctrine of *predestination*; yet they seem, for the most part, to have adopted a kind of middle course between his creed and that of the Arminian *contingency*. The penetrating and comprehensive mind of Edwards went further; demonstrated that this middle ground was untenable, and presented a more clear and satisfactory view of the doctrines of free grace, when

* Soon after the publication of president Edwards's celebrated work on the *Will*, he received the thanks of several professors of the universities of Holland, and of other gentlemen of distinction, in various parts of Europe, for having, in their opinion, thrown more light on the subject than all preceding writers. This publication has long been considered and quoted as a standard work on the side of this question which it is designed to defend.

† See *Additional notes*—(LL.)

contemplated through the medium of his main doctrine, than had ever before been given *.

That class of philosophers who taught that the soul is *material* were, until the eighteenth century, generally ranked among infidels, and in most instances really deserved this character. Hence a *materialist* has been commonly considered as a denomination tantamount to a charge of atheism itself, or at least of criminal indifference to religion. The Christian world, accustomed to connect this tenet with such heresies as those of Spinoza, Hobbes, Collins, and others, of a similar character, naturally concluded that a belief in immaterialism necessarily flows from a belief in Christianity. The last age is distinguished by the adoption of this antichristian error, by some who profess to embrace the Christian faith. Among these the most conspicuous and active is Dr. Priestley†, who maintains that “man does not consist of two substances essentially different from each other; but that the conscious and thinking principle, or what we generally term the soul, is merely a property resulting from a peculiar organical structure of the brain.” On this principle he attempts to show that the idea of the natural immortality of the soul is wholly fallacious; that the properties of sensation and thought, and of course all the distinguishing characteristics of the thinking part of our nature, must be extinguished by the dissolution of the organised mass in which they exist; and therefore that the only reason which men have

* See his *Inquiry into the Freedom of the Will*, &c. passim.

† *Disquisitions concerning Matter and Spirit*, and *Correspondence between Price and Priestley*.

to expect a state of consciousness or enjoyment hereafter is derived from the scripture doctrine of the resurrection. In former parts of this work the services of Dr. Priestley in the physical sciences have been mentioned with high respect, and with frequently repeated tributes of applause. It is to be regretted that so much of what he has written on the philosophy of mind, and almost the whole of his writings on the subject of theology, should be so radically erroneous, and so subversive of all the interests of evangelical truth and practical piety.

The principal materialists of the eighteenth century differed in some of the details of their opinions from those philosophers of preceding times who held the same general doctrine. Epicurus supposed the soul of man to be a material substance, but a *very refined and attenuated kind of matter*. He taught that this substance, notwithstanding the extreme subtlety of its texture, is composed of four distinct parts; *fire*, which causes animal heat; an *ethereal principle*, which is moist vapour; *air*; and a fourth principle, which is the *cause of sensation*. This sentient principle he supposed to differ essentially from the three former, but to be, like the rest, corporeal, because it is capable both of acting and being acted upon by bodies. From the union of the soul, thus constituted, with the body, he believed life and sensation to result. Something like this seems to have been the opinion of almost all the ancient materialists. Spinoza and Hobbes held a system of materialism quite as gross as any of their predecessors; for they seem to have thought that *every*

material atom is, in a greater or less degree, animated or endowed with sensation. Dr. Hartley (if he be ranked in this class, and it is not easy to give him any other place) sometimes appears to recognise a sentient principle, which, if not wholly immaterial, differs from any ideas which he seems to have formed of ordinary matter. Dr. Priestley's opinions on this subject, considered as a connected system, are new. He denies that there is any ground for making a distinction between the soul of man and the body; supposing the whole human constitution to be made up of one homogeneous substance. He denies that we have any evidence that the deity himself is immaterial, in the commonly received sense of this word; and, finally, by the adoption of father Boscovich's theory, he so refines and *spiritualises* matter, as to make it an extremely different thing from that gross and impenetrable substance which it is generally represented to be. He differs from preceding materialists, then, in his views of the *nature* of matter, and in rejecting the idea entertained by most of them, that the sentient principle is a species of matter *peculiarly refined and attenuated* *.

Dr. Darwin supposes that the sentient principle, or the mind of man, is a *subtle fluid*, which he denominates *sensorial power*, or *spirit of animation*. This sensorial power he represents as secreted in the brain, and in the medullary part of the nerves, where it especially resides, and from which it extends to every part of the body, without being

* See *Additional notes*—(MM.)

cognisable by our senses, except in its effects. He supposes that the *oxygen* which enters into combination with the blood in respiration, affords the material for the production of sensorial power; that this fluid is liable to be accumulated or diminished by various circumstances; that it is constantly expended by stimuli, and is probably too fine to be long retained in the nerves, after its production in the brain; and, finally, that it is capable of assuming the property of solidity, or divesting itself of this property at pleasure.

This spirit of animation, or sensorial power, according to the theory under review, produces contractions or motions in the animal fibre, and these fibrous motions, thus occasioned, are the immediate cause of all our ideas; an idea being defined “a contraction, or motion, or configuration, of the immediate organs of sense.” This spirit has *four* different modes of action; or, in other words, the mind possesses *four* different faculties, which are occasionally exerted, and cause all the contractions of the fibrous parts of the body. These are, 1. The faculty of causing fibrous contractions in consequence of the *irritations* excited by external bodies. 2. The faculty of causing contractions in consequence of the *sensations* of pleasure or pain. 3. The faculty of causing contractions in consequence of *volition*. 4. The faculty of causing contractions in consequence of the *associations* of fibrous contractions with other fibrous contractions, which precede or accompany them. These four faculties, during their inactive state, are termed *irritability*, *sensibility*, *voluntarity*, and

associability; in their active state they are termed *irritation, sensation, volition, and association* *. Upon these principles Dr. Darwin accounts for all the phenomena of mind. *Memory*, according to this author, embraces a class of ideas arising from volition and association. *Imagination* includes those ideas which were originally excited by irritation, and become, in like manner, more frequently causable by sensations of pleasure or pain. Ideas of *Abstraction* and of *Reflection* are partial repetitions of former perceptions, by the repetition of a certain stimulus †.

In 1702 Dr. William Coward, a physician, published a work entitled *Thoughts on the Soul*, in which he maintained that it is material and mortal. He was answered by the rev. Thomas Broughton and others, and defended himself with great zeal. The house of commons at length interfered in the dispute, and ordered his work to be burned by the hand of the common hangman. In 1706 Henry Dodwell, professor of history at Oxford, published a singular work, in which he attempted to prove, from the Scriptures and the early fathers, that the soul of man is a principle naturally mortal, but actually immortalised by the pleasure of God, by virtue of its union with the divine baptismal spirit; and that, since the apostles, none have the power of giving this divine immortalising spirit excepting the bishops. This publication occasioned a controversy of considerable warmth and

* See chapter iv, section iii, of this work.

† *Zoonomia*, vol. i, section iii, vi, xiv, xv. See *Additional notes*—(NN.)

interest, in which Dr. Clarke *, Mr. Norris, and others, wrote against Dodwell, and in which the subject received much elucidation. After Dr. Clarke, Andrew Baxter, a distinguished writer of North Britain, undertook, in a large work, to establish the immateriality of the soul. This work is generally considered as among the most able and satisfactory ever written in defence of the truth which it supports †.

This controversy respecting the immateriality of the soul was revived, many years afterwards, by Dr. Price ‡ and Dr. Priestley; whose correspond-

* Samuel Clarke, D.D., was born at Norwich, in the year 1675. He was educated at the university of Cambridge; and received orders in the church of England about the year 1698. In 1706 he published his letter to Dodwell, on the immortality of the soul; a philosophical and learned discourse. In 1715 he maintained a controversy with Leibnitz, which has been much celebrated; and in 1717 he published remarks upon Collins's *Philosophical Inquiry concerning Human Liberty*. His other works are numerous, and indicate great acuteness, learning, and critical skill. He died in 1729. Dr. Clarke is certainly entitled to a place among the greatest men of the eighteenth century.

† There were, no doubt, many writers on this subject, on the continent of Europe, equally worthy of notice with those above-mentioned; but the author has too little acquaintance with their character and merits to attempt any account of them in this place.

‡ Richard Price, D.D., was born in Wales, about the year 1725. He was an eminent dissenting minister, no less distinguished for the amiableness of his private character than for his great talents, and his laudable exertions in the cause of human happiness. He published his *Review of the principal Questions and Difficulties in Morals, &c.*, in 1758; his *Observations on Reversionary Payments, &c.*, in 1771; and *A free Discussion of the Doctrines of Materialism and Philosophical Necessity*, with Dr. Priestley, in 1778. These are his most celebrated works. He died in 1791.

ence on the subject forms a very important part of the metaphysical history of the period in which they lived. Some of the immaterialists of the age, such as Dr. Clarke, Dr. Price, and others, maintained that the mind has one property, *viz. extension*, in common with matter, and, consequently, that it occupies space, and has a proper locality; or, as the schoolmen express it, *ubiqity*; while others, such as Dr. Watts*, perhaps more consistently and philosophically, supposed that mind has no common property with matter; that it is inextended, does not occupy space, and has no proper locality†.

The celebrated dispute between the *Nominalists* and *Realists*, which perplexed the schoolmen for so many ages‡, and which all their acuteness was not able to terminate, was carried on with great warmth, under different names, and with some new modifications, through the whole of the last century. And though still far from being concluded, yet probably there was never so much light thrown on the question in any preceding period. Of those who maintained the doctrine of the *Realists*, it is believed that Mr. Harris, Dr.

* Isaac Watts, D. D., was born at Southampton, in 1674. The works of this great and good man are numerous and excellent. His *Treatise on Logic*, his *Treatise on the Improvement of the Mind*, and his *Philosophical Essays*, contain the chief of what he wrote on metaphysical subjects. He entered on the work of the Gospel ministry about the year 1700; received the degree of D. D. from the universities of Edinburgh and Aberdeen, in 1723; and died in 1741.

† See *Correspondence between Price and Priestley*; and also *Elements of the Philosophy of Mind*, by T. Belsham.

‡ See *Additional notes*—(OO.)

Price, and lord Monboddo, were among the most eminent; while the system of the *Nominalists* was espoused and defended with great ingenuity by Leibnitz, bishop Berkeley, Mr. Hume, Dr. Campbell, professor Stewart, and many others. Mr. Locke, Dr. Reid, and a few more under the name of *Conceptualists*, adopted a kind of middle course between these far-famed disputants.

From a review of the whole of this chapter it appears, that the principal improvements which have been made in metaphysical science, during the last age, may be summarily presented in the following particulars.

1. The *Inductive Method* of inquiry has been introduced into this branch of science, more fully, and with greater success, than ever before. In other words, some philosophers of the last age have taught us, for the first time, to study the human mind by ascertaining *facts*, and carefully observing and arranging its *phenomena*, without endeavouring to explain these phenomena by hypotheses and conjectures.

2. The theory of *Perception*, which had for so many centuries perplexed and deluded philosophers, was, for the first time, during this period, denied and disproved, and a more rational doctrine introduced in its stead.

3. The enumeration and arrangement of the intellectual powers have been delivered, by metaphysicians of this age, from the false, inadequate, and mischievous simplicity, which were so long and obstinately adhered to by their predecessors. The original powers of the mind have been

shown to be more numerous than they were before supposed; and the plan of studying them in detail, rather than through the medium of a set of deceptive systematic rules, exhibited and recommended.

4. The metaphysical writings of the eighteenth century are, in general, more clear, popular, and intelligible, than those of any former age. To this some of the most erroneous writers of the age have, by their acuteness, contributed. Even Berkeley and Hume have thus indirectly subverted the interests of metaphysical science.

Beside the writers on the general philosophy of mind, or on particular parts of this science, whose names have been mentioned in the foregoing pages, a number of others are entitled to notice in the metaphysical history of the last age, as having either written professedly on the subject, or interwoven much matter relating to the philosophy of mind in the discussion of theological, moral, and literary subjects. Among these bishop Butler, Dr. Hutcheson, Mr. Grove, Dr. Campbell, Dr. A. Smith, Mr. Toplady, Mr. Tucker*, and Mr. Alison, of Great Britain; Beausobre, Condillac,

* See *The Light of Nature Pursued*, by Edward Search, esq. 7 vols. 8vo, 1768, 1778. The real author of this work was Abraham Tucker, esq. It contains much new, curious, and highly interesting discussion on metaphysical and moral subjects. Of Mr. Tucker Dr. Paley, in the preface to his *Moral and Political Philosophy*, speaks in the following terms: "I have found in this writer more original thinking and observation upon the several subjects that he has taken in hand, than in any other, not to say, than in all others put together. His talent for illustration is unrivalled. But his thoughts are diffused through a long, various, and irregular work."

and many more, of France; Hollmann, Lossius, Tetens, Feder, Kruger, and Mendelssohn, of Germany; Crousaz, le Clerc, Bonnet, and several others, of Switzerland; and a much longer list which might be selected from different parts of Europe, are entitled to respectful distinction*. Indeed, the connection is so close between the philosophy of mind and moral science, that every systematic writer on the latter subject has, in a greater or less degree, treated of the former. This will more fully appear when we come, in a future division of the present work, to take a view of the various moral systems which have obtained currency, or excited attention, in the last age.

* Of the writings of the greater part of the metaphysicians above-mentioned, which belong to the continent of Europe, especially those of Germany, the author knows little but by report; it will not, therefore, be expected that he should deliver any formal statements or opinions concerning their doctrines.

CHAPTER XIII.

CLASSIC LITERATURE.

AT the revival of learning in the fifteenth century, *Classic Literature*, or the study of the best ancient writers of Greece and Rome, was an object of primary and enthusiastic attention among the literati of Europe. The remains of these writers were sought with avidity, and studied with persevering diligence. Criticisms and commentaries upon them abounded. To gain possession of a classic manuscript; to remove an obscurity in an ancient text; or to propose a new reading, was then considered among the most honourable and useful of all literary achievements. At that time he who could lay claim to the character of an adept in the Greek and Latin tongues was, of course, a great and learned man; while, without this, however solid, extensive, and valuable, his knowledge of other subjects, no one could be rescued from the charge of barbarous and contemptible ignorance. In a word, instead of considering classic literature as a *means* of obtaining more important knowledge, the directors of public taste, at that period, unwisely erected it into an ultimate *end*, and taught their followers to consider it as the most worthy object of pursuit, to all who were ambitious of becoming learned. This was an improper extreme. The more judicious had just cause to lament that such a disproportionate share of regard was bestowed on language,

to the neglect of studies more important and immediately practical.

This error began to be corrected about the beginning of the seventeenth century. At this period brilliant discoveries in natural philosophy began to arrest the attention of the learned world, and the physical sciences in general became more objects of regard. But this decline of classic literature was gradual. One error was not immediately exchanged for its opposite. The Latin language was now generally employed as a medium of publication in science; and although it had come to be generally considered in its proper light, as a *means* rather than an *end*; yet both this and the Greek were generally and deeply studied by all who had a taste for letters, or aspired to distinction in knowledge.

At the beginning of the eighteenth century the study of the ancient languages was still esteemed an essential part of liberal education. It was then the habit of the learned not only to write and speak the Latin tongue with the greatest facility, but they also still employed it as a medium for conveying the result of their philosophical labours throughout the literary world; and most of those who laid claim to the character of scholars had an extensive and accurate acquaintance with Grecian literature. In both these respects the eighteenth century produced a singular revolution. The Latin language has in a great measure ceased to be that familiar medium of conversation and of writing among the learned that it once was; and the Greek, though nominally retained as a branch of study in modern seminaries of learning, has be-

come almost unknown even to the liberally educated. A belief is daily becoming more prevalent and popular, that the time bestowed on the acquisition of these languages, if not entirely wasted, might at least be more usefully employed. This belief, of course, has had considerable influence on modern plans of education. And although in a few of the ancient European seats of learning, some portion of the former zeal for classic literature still remains; yet even in these a considerable decline from their wonted eminence is plainly visible; and in by far the larger number the decline is great, humiliating, and evidently on the increase.

The vernacular tongue, it is believed, first began to be employed in works of science, to the rejection of the Latin, in Italy. From that country the practice made its way into France, and soon became general. Great Britain was the next, in order, to adopt this innovation, which was admitted last of all into Germany and Holland. At the present day the number of books published in any other than the living languages is extremely small.

In America the decline of classic literature is especially remarkable and prevalent*. Many of

* This statement respecting the low state of classic literature in the greater number of the American colleges, though true in general, is not to be admitted without exception. There are instructors in several colleges in the United States under whose tuition a youth, who is disposed to do justice to himself, may obtain as accurate and good an introduction to Greek and Latin literature as can be obtained in any European university, without exception. But as nothing more than the foundation of knowledge can be laid at seminaries of learning, at least in the usual

our colleges require in their students but a superficial acquaintance with the Latin language; and with respect to the Greek, are contented with a smattering which scarcely deserves the name of knowledge. And although in others laudable exertions have been, and continue to be, made for retaining to some profitable extent this part of education, yet the popular prejudice against it is strong and growing; and there is too much reason to fear that this prejudice will, at no great distance of time, completely triumph*.

The causes of this revolution are various. Since the commencement of the eighteenth century the physical sciences have been gradually extending their bounds, demanding more attention, and acquiring greater ascendancy. As the objects of course; and as this foundation in classic literature is too seldom built upon, in after life, by the youth in America, it has fewer proficient in this department of learning than its just proportion.

The author has been lately informed, and mentions with great pleasure, that in some parts of the United States there are promising appearances of a revival of classic literature.

* While a great fondness prevails in the United States for giving young men a *college education*, and obtaining for them the usual academic honour of a *diploma*, there is also a prevailing disposition, not only among the youth themselves but also among parents and guardians, to give them as small a portion of classic, and especially of Greek, literature as possible. Against this latter language, it seems, particular hostility is denounced. And in some of our colleges it requires the exertion of all the authority vested in the immediate instructors, and the governors, to prevent popular ignorance and prejudice from expelling the study of Greek from their plans of education. This is a circumstance which threatens much evil to the interests of literature in the country; and unless the trustees and other officers, to whom the direction of the seminaries of learning is entrusted, combine to oppose the plausible but delusive literary heresy, another generation will witness the most unhappy effects arising from its prevalence.

study multiplied, a less degree of leisure was left for any particular pursuit. The splendour of several new branches of philosophy, as they successively rose into view, attracted the studious, and gave a new turn to fashion. Hence those who employed themselves in the illustration of the classics, in the settlement of various readings, or in making themselves masters of those venerable remains of antiquity, soon sunk in popular esteem. It became fashionable to represent them as persons void of taste; as “word catchers, that lived on syllables;” as far below the votaries of science in dignity. This ridicule sensibly diminished the public respect for classic literature, and still continues to operate with undiminished force.

Another cause which has, doubtless, contributed to produce the effect in question, is the inconceivable enlargement of the sphere of enterprise and activity which the past age exhibited. New objects of profit and pleasure have arisen, and engaged the public mind; new fields of labour and adventure have been thrown open; and, of course, in calculating an education for active life, the refinements of ancient literature began to receive a smaller share of regard. To which may be added, that the increased intercourse of mankind on the one hand, by bringing several living languages more into use, necessarily diverted a share of attention from the ancient; and, on the other, by rendering the study of various modern tongues more easy and useful, took away one important argument in favour of a learned language as a medium of general intercourse.

It must be admitted that this manifest decline of classic literature has been attended with some

advantages. In consequence of discarding dead languages, as the ordinary medium of philosophical publications, such writings have become more accessible and popular; the student has more time left for becoming acquainted with his vernacular tongue; the attention of the learned is more directed to moral and physical sciences; the youth destined for active life is no longer condemned to waste his days by devoting them to objects which are, to him at least, of subordinate importance. In a word, the gradual disuse of what are called *learned* languages, may be regarded as an important branch of the system of those who consider the general diffusion of knowledge as a desirable object; and who wish to make every part of it as popular as possible. There are few things more directly calculated to break down the "wall of partition" between the literary and the other classes of citizens, and to render liberal information the common portion of all ranks in the community, than making living languages the only means of intercourse, and removing the necessity of acquiring any other.

But if some advantages have attended the decline of classic literature; if it have produced a greater diffusion of knowledge, and favoured the progress of the arts and sciences, there is, perhaps, reason to doubt whether it has not produced more and greater evils. It has rendered the intercourse between learned men more difficult, for want of a common medium. It has produced a necessity of consuming more time in the acquisition of various modern languages. And, what is of no less consequence, it has caused some of the best and most precious works of antiquity to

be little known at the present day, and of consequence to be, in a great measure, lost to the world.

It has been asserted, by the ablest philologists, that the knowledge of the Greek and Roman writers has a very important influence in promoting literary taste. Those writers display excellencies with respect to the structure and polish of language which, it seems to be generally agreed, are unrivalled in the annals of composition. To study these excellencies has a natural tendency to render the mind familiar with the philosophy of grammar, and to inspire it with a taste for the refinements of eloquence. It has a tendency to form in the student a capacity to discern, and a solicitude to attain, the purity, the precision, and the graces, of speech. Perhaps it may be questioned whether a man can possibly understand any one modern language, in its various inflections, beauties, and shades of meaning, without having some acquaintance with those ancient tongues. Certain it is, that almost the whole of that invaluable mass of instruction on this subject, to be derived from *etymological* inquiries, depends on such an acquaintance, and must be commensurate with its extent. Hence it is supposed, by some of the most judicious literary historians, that the high estimation set on classical literature, and the enthusiastic attention paid to it, until within a few years past, may be considered among the principal causes of that rapid improvement in several European languages, which distinguishes the seventeenth and eighteenth centuries. By diligently studying the ancient models of composition, and

habitually referring to them as standard, the literati of those days were enabled to transfuse their beauties into the living languages ; to give the latter a large portion of the copiousness, regularity, and numerous excellences, of the former ; and to convert them from that miserably defective and barbarous state in which they were found, to a degree of richness and refinement bordering on rivalry with their admired patterns.

If these facts and reasonings be admitted, it would seem to follow that the same course of studies which contributed so much to raise modern languages to their present refined and improved state, must also be considered as useful, if not indispensably necessary to the preservation and support of those excellences which they have attained. The tendency of living languages to fluctuate and change is universally known. The intercourse of different nations ; the ignorance, presumption, and affectation, of authors ; the gradual introduction of provincial barbarisms, and many other causes, are frequently found to debase the purity, and, in no small degree, to affect the regularity of modern tongues. Of the mischief which has been often done in these respects, even by a single popular writer, the annals of literature furnish numerous instances. It is true, to possess a language absolutely *fixed* is neither possible nor desirable. New discoveries in science, new refinements in art, and the continual progress made in various departments of human knowledge, call for new words and phrases, and necessarily give rise to many corresponding changes, some of which are invaluable improvements in speech. But if left unrestrained

these innovations will be wantonly and injuriously multiplied. Every unfledged sciolist will assume the office of a reformer. Additions and alterations will no longer be made conformably to the analogy of the stock on which they are grafted ; and language will speedily degenerate into a corrupt, capricious, and unintelligible jargon. Against this degeneracy, perhaps, no barrier is more effectual than the study of the ancient classics, and continually referring to them as the best standards of literary taste which mankind possess. The most illustrious models of English style have, undoubtedly, been produced by those who were intimately acquainted with those classics. Scarcely an instance can be found of an author who was ignorant of them, and who, at the same time, attained any high degree of excellence as a writer in his own language. And if ever the time should come when the polished tongues of antiquity shall cease to be studied in our seminaries of learning, it requires no spirit of prophecy to predict that our vernacular language will gradually lose the purity and regularity of its proper idioms ; become loaded with anomalies and meretricious ornaments ; and no longer exhibit that philosophic uniformity, and systematic beauty, which are so desirable and useful. It is believed that the style of some very popular writers, within the last thirty years, furnishes a very instructive comment on the foregoing ideas, and affords abundant evidence of their truth.

But this subject may with propriety be considered as a matter of still more serious concern. To discourage the study of ancient languages is to discourage one important means of supporting and

defending Revelation. With what boldness would every heresiarch assail the foundation and the purity of our faith, if its teachers were generally ignorant of the original records of truth ! With what confidence would unbelievers triumph, and with what manifest advantages would they be armed, were the friends of religion unable to appeal to the primitive oracles of inspiration, and to the primitive witnesses of their authenticity ! To recommend the dismissal of classic literature, therefore, from plans of education, is not only to declare war against taste and sound learning, but also to betray the interests of evangelical truth, and put a new weapon into the hands of its enemies.

No wise man, indeed, would think of enjoining the acquisition of the dead languages upon every youth who seeks a liberal education. To impose such a task upon those who have no view to any of the professions denominated learned, or whose circumstances in life leave little leisure from the toil of active pursuits, would be to make a very improper use of one of the most important portions of life. But that the acquisition is abundantly worthy the labour of making it, to those who have the time and the means necessary for the purpose ; that some knowledge on this subject has a tendency to meliorate the whole literary character, even if it be afterwards forgotten ; and that the prevailing and increasing disposition to neglect this department of study ought to be regretted as among the fashionable follies of the age, would seem to follow necessarily from the foregoing remarks.

But notwithstanding the declining state of classic literature during the eighteenth century, this period was distinguished by a few events and characters which attracted considerable attention, and which are worthy of being noticed in the present sketch.

Though it is certain that the great proficients in classic literature were much fewer at the close of the eighteenth century than at its commencement, yet, in some respects, these few possessed advantages which none of their predecessors enjoyed. Their advantages over them in the following particulars are obvious. A spirit of *philosophy* has been introduced, during this period, into historical investigations, which, united with unwearied research, has greatly extended our knowledge of ancient manners, and afforded new illustration to ancient writings. The niceties of *conjectural criticism* have been carried, since the time of Bentley, to a greater length than was ever before known. The proper excellencies of *style* have become lately much better understood than they were at earlier periods of the critical art; and the reign of just taste among classical commentators more generally established. Many *grammatical rules* of the ancient languages, and especially of the Greek language, have been ascertained and laid down with a degree of precision to which former critics were entire strangers. The *metres of the ancient poets* have been much better understood and illustrated by the commentators of the last century than those of any preceding age. And, finally, by the *collation of old manuscripts*, new light has been thrown on many passages of

classic authors which were before unintelligible or obscure. For these improvements we are chiefly indebted to the critics of Great Britain, Germany, and Holland.

The labours of learned men, during the age under consideration, to facilitate the acquisition of the Latin language, have been numerous and useful. *Dictionaries*, *Grammars*, and other similar works, have been executed on new and improved plans, with great diligence, perseverance, and success. A number of scientific publications have been made in this language, in various parts of Europe, in the course of the century, which will long remain monuments of the learning and taste of the age. A few publications of this description have appeared in Great Britain; but by far the greater number on the continent of Europe. Well executed and useful helps for acquiring the Greek language have also been multiplied during the eighteenth century, and have contributed to the degree of cultivation which it received.

Before the commencement of the eighteenth century, it is believed, the Latin language was always taught by means of grammars written in the same language. In other words, a plan of instruction was adopted which presupposed the knowledge of that which was meant to be acquired. This absurd custom subjected youth to unnecessary labour, and burdened their memories with words to them altogether unmeaning. In the course of the century a considerable improvement in this respect took place. *Grammars* and *Dictionaries* in the popular language became more common. And, what is worthy of remark in this century,

a *Lexicon*, for enabling those who understand no other language than English to acquire the knowledge of Greek, was for the first time presented to the public by the celebrated Mr. Parkhurst, of Great Britain, whose learned and useful labours for promoting the study of the ancient languages, and especially of those in which the sacred volume was originally written, are well known.

In Greek literature the learned men of Holland, for a considerable part of the century, bore the palm from the contending world. Among these Schultens, Hemsterhuis, Ruhnkenius, Valckenaer, Lennep, and Scheid, will long be remembered with respect by the friends of learning. The first named of these great scholars, the immortal Albert Schultens, early in the century investigated, with singular erudition and acuteness, the derivation and structure of several languages, and particularly the Greek. He was followed by his countryman, the celebrated Tiberius Hemsterhuis*, who undertook to derive the whole Greek language, various and copious as it is, from a few short primitives, on a plan entirely new. His doctrines were further pursued and illustrated by his disciples, Ludovic Caspar Valckenaer†, and John Daniel Lennep‡, who offered to the world many refined and curious speculations on the subject.

* Hemsterhuis did not himself, it is believed, publish his doctrine respecting the derivation of the Greek language. This was done by his disciples.

† *Vide Ludovici Caspari Valckenaerii Observationes, quibus riamunitor ad Origines Græcas Investigandas, et Lexicorum defectus resarsciendos.*

‡ *Vide Joann. Daniel. Lennep De Analogia Lingue Græcæ, six Rationum Analogicarum Lingue Græcæ Expositio.*

To these succeeded Everard Scheid*, a disciple of the same school, who wrote largely and learnedly on the proposed system of derivation, but differed materially from his preceptor and his fellow pupils. Beside the services rendered to Greek literature by the great critics above-mentioned, the *Ellipses Græcæ* of Lambertus Bos; the *Doctrina Particularum* of Henry Hoogeveen†; and the ingenious speculations of Lord Monboddo, in his *Origin and Progress of Language*‡, have all contributed to unfold more clearly than before the etymology, the genius, the beauties, and the various excellencies of this ancient tongue.

But the services of these eminent critics have not been all stated. While they pursued further than their predecessors the analysis of the Greek language, they purified the grammar from many absurdities and errors; they interpreted and amended many passages in ancient authors; and contributed in various ways to facilitate and recommend the study of those authors. And even

* Vide *Etymologicum*; and *Animadversiones ad Analogiam Linguae Græcæ*.

† *Doctrina Particularum Linguae Græcæ, Auctore et Editore Henrico Hoogeveen*, 2 tom. 4to. This is a large, ingenious, and learned work, on the origin and meaning of the Greek *Particles*, Lord Monboddo speaks of it in terms of great respect and approbation. See his *Origin and Progress of Language*.

‡ Lord Monboddo derives the whole Greek language from combinations in *duads*, of the ω with the other five vowels, α , ε , ι , \omicron , υ ; the ω being always last: so that $\alpha\omega$, $\varepsilon\omega$, $\iota\omega$, $\omicron\omega$, $\upsilon\omega$, are the radical sounds, from which the whole language is derived. It is very remarkable, that the British philologist adopted almost precisely the same doctrine on this subject which had been before taught, though without his knowledge, by Hemsterhuis, and his followers, of the Leyden school.

if all their speculations respecting the analysis of the language, and especially concerning the origin and meaning of the *particles*, should be judged to be wholly unfounded, which probably few will suppose to be the case, they will doubtless be pronounced to have thrown much light on the subjects which they discussed. But a satisfactory view of their ingenious and useful labours can only be obtained by the careful perusal of their numerous publications.

It might have been expected, in an age in which the intercourse of men was so much extended as in the last, and in which so many rich repositories of ancient manuscripts were for the first time opened to the inspection of the intelligent and the curious, that many remains of ancient genius, before unknown, would have been brought to light. Few acquisitions, however, of this kind have been made by the republic of letters. The industry and zeal of former times in this pursuit seem to have left little to be gained by modern exertions. The small additions which have been made during the last age, to the classic treasures before possessed by the world, may perhaps deserve some brief notice.

It had been long known that a composition bearing the title of a *Hymn to Ceres*, and ascribed to Homer, existed in the second century; but learned men considered it as irretrievably lost. In the eighteenth century this composition was brought to light; and, what is remarkable, it was found in one of the rudest and most unclassical countries of Europe. About the year 1775 Christian Frederic Matthæi, a learned German, having

been invited to settle at Moscow, in Russia, obtained access, soon after taking up his residence there, to a number of Greek manuscripts, deposited in the library of the *Holy Synod* in that city. Among these manuscripts he found the *Hymn to Ceres* abovementioned, almost entire, which he sent to his friend D. Ruhakenius, of Leyden, who, in 1780, committed it for the first time to the press, accompanied with learned annotations*. It is, indeed, far from being certain that this *Hymn*, notwithstanding all its celebrity, is really the production of the immortal Grecian bard to whom it is ascribed †. The learned editor himself expresses much doubt with respect to this point. The composition, though exquisitely beautiful, is said by good judges to want some of the more striking characteristics of Homer, and, in particular, to be deficient in that energy and spirit for which he is so remarkable ‡.

Nearly contemporaneous with the above-mentioned discovery in Moscow, was another made in Venice, by M. Villoison, a learned Frenchman, who, among many valuable manuscripts which he

* This *Hymn* was elegantly translated into English verse, and accompanied with learned notes, by Richard Hole, LL.B., 8vo, 1781.

† It is generally known that of the other *Hymns* ascribed to Homer, suspicions have been entertained that the greater part, if not all, are spurious. See on this subject Davidis Ruhkenii *Epistola Critica in Homeridarum Hymnos et Hesiodum ad virum clarissimum* Ludov. Casp. Valckenaerium, 8vo, Lug. Bat., 1749.

‡ Vide *Ομηρου Ὕμνος εἰς Δήμητραν*: vel *Homeri Hymnus ad Cererem, nunc primum editus a Davide Ruhkenio*, Lug. Bat., 8vo, 1780.

examined in the library of St. Mark in that city, found a very curious copy of the *Iliad*, made in the tenth century, and enriched with the *notes* and *scholia*, hitherto unpublished, of sixty of the most eminent critics of ancient times. Beside the *notes* and *scholia*, the manuscript was found to contain *various readings*, equally numerous and important, drawn from the ancient editions of Homer, given by Chios, Cyprus, Crete, Marseilles, Sinope, and Argos; editions before known only by name, and by some citations of Eustathius. This manuscript also exhibits various readings drawn from many other editions; so that it may be emphatically called the *Homerus Variorum* of all antiquity, and more especially the Homer of the famous school of Alexandria. M. Villoison has since committed this copy of the first epic poem to the press, and thereby made an inestimable present to the lovers of Greek literature*.

To this chapter belongs also some notice of an event which the classical scholar regards with no small interest. Nearly thirty years ago the president de Brosses, a distinguished philologist of France, finding, in the course of his researches, some remains of a *History of the Roman Republic*, by Sallust, which had been supposed to be entirely lost, undertook the arduous task of restoring it. After taking immense pains to collect all the quotations which had been made from this precious relic, by the ancient grammarians and others, he

* The author believes that M. Villoison also published a splendid edition of the *Odyssey*; but the character of the edition, or the circumstances attending its publication, are unknown to him.

found himself in possession of more than seven hundred fragments, which he laid together with so much skill and patience, as to produce a connected work, by no means unworthy of the celebrated Roman whose name it bears. This work was translated into French, and published in 1777, at *Dijon*, in three volumes, quarto, under the following title: *Histoire de la République Romaine dans les cours du vii Siècle*, par Salluste, &c. It will be readily supposed that a production of one of the greatest historians of antiquity, recovered in a manner so extraordinary, excited much of the attention of learned men, not only in France, but also throughout the literary world.

Among the numerous monuments of ancient genius, both in literature and the arts, which were dug out of the ruins of *Herculaneum*, in the course of the last age, there were many hundred manuscripts which excited high expectations among the learned. Of these nearly *eighteen hundred* manuscripts, chiefly Greek, have been long deposited in the museum at *Portici*, belonging to the king of Naples. But so much trouble and expense have attended all the attempts hitherto made to unroll and decipher them, that the anticipations of the curious have been hitherto but little gratified. It is hoped, however, that better success may attend future exertions in this ample field of literary labour*.

* In 1802 it was announced to the public, by a letter from Italy, that a manuscript of some importance had been, a short time before, found in the museum at *Portici*. It seems the prince of Wales lately requested of the court of Naples to authorise Mr. Haiter, one of his librarians, to examine the manuscripts in that

Almost all the classics had been repeatedly edited prior to the commencement of the eighteenth century. Beside many single works of high reputation which pertain to this class, there are two of a more extensive and celebrated kind belonging to the seventeenth century, which are worthy of notice. These are the *Variorum* editions, as they are generally called, published in Holland, about the middle of that century, by Grævius, Gronovius, Schrevelius, and others; and the still more famous editions, *In usum Serenissimi Delphini*, published toward the close of the same century, under the patronage of Lewis XIV, and chiefly completed by the labours of Huet, Bossuet, Montausier, and Ruæus. But these, notwithstanding all their excellence, have not discouraged subsequent attempts. The editions which have been given to the public, during the period of this retrospect, are chiefly distinguished by their great typographical elegance; their additions to the various readings before collected; the superior taste and delicacy of their conjectural criticism; and their more enlightened and liberal commentaries on the defects, beauties, and meaning, of the ancient writers.

Of the *Greek* classics, the works of *Homer* were museum, which were dug from Herculaneum, that their contents might be ascertained. The authority was granted. Mr. Haiter entered on the task with great zeal and intelligence; and soon discovered a work of Epicurus, entitled *Of the Nature of Things*, which was known only from the mention made of it by some writers of antiquity, and which appears to have served as the basis for the poem of Lucretius, on the same subject. At the date of the account a copy of this manuscript was preparing for the press.

edited, during this period, with great splendour, by Wolfius and Clarke; the works of *Aristotle*, by Buhle; *Herodotus*, by Gronovius and Wesseling; *Thucydides*, by Duker; *Xenophon* and *Polybius*, by Ernestus; *Longinus*, by Pearce, Toup, and Ruhnkenius; *Demosthenes*, by Wolfius, Taylor, and Reiske; *Hesiod*, by Krebsius, Bodini, and Loesner; *Pindar*, by Heyne; *Euripides*, by Musgrave; *Sophocles*, by Brunck and Capperonier; *Aristophanes*, by Kuster and Brunck; *Lucian*, by Reitzius, Hemsterhuis, and Gesner; *Plutarch*, by Reiske; *Theocritus*, by Reiske and Wharton; *Epicetetus*, by Upton; *Anacreon*, by Barnes, Maittaire, Pauw, Spaletti, Degen, and Gail; *Æschylus*, by Pauw and Porson; *Diodorus Siculus*, by Wesseling; *Dion Cassius*, by Fabricius and Reimar; *Lysias*, by Taylor and Augur; *Isocrates*, by Battie and Auger; and *Callimachus*, by Bentley and Ernestus.

Of the *Latin* classics the following editions, published during the period under review, are worthy of particular notice: *Virgil*, by Burmann, Heyne, and Wakefield; *Horace*, by Baxter, Gesner, and Zeunius; *Cicero*, by Verbergius, Olivet, and Lallemant; *Livy*, by Maittaire, Drakenborch, Rudiman, Crevier, and Homer; *Tacitus*, by Gronovius, Ernestus, Brotier, Grierson *, and Homer;

* Mrs. Grierson, an Irish lady, who was “possessed of singular erudition, and had an elegance of taste, and solidity of judgment, which justly rendered her one of the most wonderful, as well as amiable, of her sex. Her *Tacitus* is one of the best edited books ever delivered to the world.” See Harwood’s *View of the Classics*.

Sallust, by Havercamp, by don Gabriel* of Spain, and by Homer; *Quintilian*, by Burmann, Gesner, and Homer; *Lucretius*, by Havercamp and Wakefield; *Ovid*, by Burmann; *Lucan*, by Burmann, Bentley, and Cumberland; *Persius*, by Homer; *Terence*, by Bentley, Mrs. Grierson, Westerhovius, and Zeunius; *Justin*, by Gronovius; *Cæsar's Commentaries*, by Clarke; *Phædrus* and *Petronius Arbiter*, by Burmann; *Pliny* the elder, by Brotier and Hardouin; *Pliny* the younger, by Longalius, Gesner, and Lallemand; *Tibullus*, *Catullus*, and *Propertius*, by Vulpus; *Suetonius*, by Pitiscus, Burmann, Ernestus, and Oudenorp; *Eutropius*, by Havercamp; *Claudian*, by Gesner; *Florus*, by Duker and Fischer; *Quintus Curtius*, by Snakenburg; *Aulus Gellius*, by Gronovius; and *Silius Italicus*, by Drakenborch.

From the above very imperfect list it appears that classic literature has been cultivated, during the last century, with most zeal and success in Germany and Holland; Great Britain is, perhaps, entitled to the next place†; and afterwards, in

* This is one of the most splendid editions that was ever given of an ancient classic. It was printed in folio, at Madrid, in 1772, enriched with curious notes, and adorned with elegant engravings. The editor, don Gabriel, a son of the king of Spain, was one of the most learned men of Europe in his day. He was born in 1755, and died of the small-pox in 1788.

† Within the last fifteen or twenty years of the eighteenth century, classic literature, and especially the study of the Greek language, has, in some degree, revived in Great Britain. From the time in which Barnes, Bentley, and Clarke, flourished, till the period abovementioned, their country could boast of few acquisitions in this department of literature. But towards the close of the century the labours of Burney, Wakefield, Parr, and Porson,

succession, come France, and other countries on the continent of Europe. Greek literature in France was at a low ebb during the greater part of the period of this retrospect, and is still but little cultivated in that country.

But the eighteenth century is especially distinguished by the number and value of the *Translations* of classic authors which it produced. The Greeks were almost, if not entirely, strangers to this kind of literary labour. The Romans had a few translations, but they were little esteemed, and gained their authors but small consideration in the republic of letters. A number of performances of this kind were produced in the sixteenth and seventeenth centuries; but in the eighteenth they more than ever abounded, and attained a degree of excellence altogether without example. A few of the most valuable of these may be mentioned, without attempting to furnish a complete list.

The following translations of *Greek* classics into the *English* language, during the late century, deserve particular notice. The *Iliad* and *Odyssey* of *Homer*, by Pope* and Cowper; *Herodotus*, by Littlebury, Beloe, and Lempriere; *Thucydides* and *Xenophon*, by Smith; part of the works of *Aristotle*, by Twining, Pye, Ellis, and Gillies; *Lucian*, by Franklin and Carr; *Demosthenes*, by Leland;

not to mention several others who might with propriety be introduced into the same list, revived the taste for this kind of learning, and will probably produce still more extensive effects.

* The translation of the *Iliad* by Pope is pronounced, by Dr. Johnson, to be "a poetical wonder; a performance which no age or nation can pretend to equal; a work the publication of which forms a grand æra in the history of learning." *Life of Pope*.

Epictetus, by Carter *; *Plutarch*, by Langhorne; *Longinus*, by Smith; *Polybius*, by Hampton; *Isocrates*, by Gillies; *Isæus*, by Jones; *Hesiod*, by Cooke; *Theocritus*, by Polwhele; *Pindar*, by West; *Theocritus*, *Bion*, and *Moschus*, by Fawkes; *Æschylus*, by Potter; *Sophocles*, by Potter and Franklin; *Euripides*, by Potter and Woodhull; *Anacreon*, by Moore; and *Callimachus*, by Tytler.

The translations of *Roman* classics, during the same period, were still more numerous. Of a very long list the following may be considered as a specimen. The *Eneid* of *Virgil* was presented in an English dress by Pitt and Beresford, and the *Eclogues* and *Georgics* of the same illustrious Roman, by Martin and Wharton; the works of *Horace*, by Smart, Creech, Francis, and Boscawen; *Juvenal*, by Madan; *Persius*, by Brewster, Madan, and Drummond; *Lucy*, by Haye and Baker; *Tacitus*, by Gordon and Murphy; *Lucan*, by Rowe †; the *Metamorphoses* of *Ovid*, by Garth, Davidson, and Clarke; the *Orations* of *Cicero*, by Guthrie; and selections from the same, by Duncan; *Sallust*, by Gordon; the *Commentaries* of *Cæsar*, by Bladen; the *Epistles* of *Pliny*, by Orrery and Melmoth; the *Epistles* of *Cicero*, by Melmoth; the *Epistles* of *Seneca*, by Morrell; *Terence*, by Cooke and Colman; *Tibullus*, by Grainger; *Aulus Gel-*

* Mrs. Elizabeth Carter is another instance of great classical erudition and taste in a female of the eighteenth century.

† “The version of *Lucan*,” says Dr. Johnson, “is one of the greatest productions of English poetry; for there is perhaps none that so completely exhibits the genius and spirit of the original. It deserves more notice than it obtains; and as it is more read will be more esteemed.”

lius, by Beloe; and *Plautus*, by Warner and Thornton.

The translations made into several of the languages of the continent of Europe, during the period under consideration, are numerous and respectable. But of these too little is known to attempt any thing like a discriminating selection. The *Iliad* and *Odyssey* of *Homer* were ably translated into French, by Madame Dacier and M. Rochefort; into German, by Voss; into Italian, by Cæsarotti* and Ceruti; and into Spanish, by Malo. The *Cyropædia* of *Xenophon* was translated into French, by Dacier and Gail; and into German, by Wieland; *Thucydides*, into French, by Levesque; and *Herodotus*, into the same language, by Larcher; the works of *Plutarch*, into French, by Amiot and Riccard; the *Politics* of *Aristotle*, into French, by Champagne; *Theæcritus*, into the same language, by Gail; *Demosthenes*, also into French, by Turreil; *Hesiod*, into German, by Schutze; and *Plutarch*, also into German, by Penzel.

Versions of *Virgil* were made, in the period of this retrospect, into Italian, by Bendi; and into German, by Voss and Spitzenbergen; of *Horace*, into French, by Sanadon and Darcu; of *Sallust*, into German, by Schluter; and of *Tacitus*, into French, by Guerrin, Bletterie, and Dotterville. The translation of the *Bucolics* and *Georgics* of *Virgil*, into *Greek* hexameters, by Eugenius, a

* Several of the translations abovementioned, made on the continent of Europe, are said to possess first-rate excellence. In particular those of Voss and Cæsarotti, both poetical, are represented as having merit of a superior kind.

Russian archbishop, is a singular specimen of literary labour. This work was splendidly printed, towards the close of the eighteenth century, under the patronage, and at the expense, of prince Potemkin.

But notwithstanding all the labours of learned men to promote the knowledge of the Greek and Latin classics, the study of them was almost uniformly declining from the beginning to the end of the century. And in the course of little more than two centuries this kind of knowledge, from being considered the most interesting and important that could occupy the attention of man, came to be regarded by a large portion of the literary world as among the most useless objects of pursuit.

CHAPTER XIV.

ORIENTAL LITERATURE.

THE literature of *Asia*, the birth-place and cradle of our species, where Philosophy first reared her head, and whence Greece and Rome borrowed a large portion of their knowledge, cannot be otherwise than highly interesting to the enlightened and inquisitive mind. At the beginning of the eighteenth century much had been *written*, but comparatively little was really *known*, concerning that important part of the globe. The works of Pococke and Hyde, of Great Britain; of Erpenius and Golius, of Holland; and of d'Herbelot, Bouchart, Bouchet, and others, of France, toward the close of the preceding century, had all communicated to the public much curious and valuable information respecting various eastern countries, particularly *Arabia*, *Persia*, and some parts of *India*. But these works had so limited a circulation, and the intercourse between Europe and the east was so small, that few were excited to pay much attention to this branch of literature. In Great Britain especially, during the first half of the century, oriental learning was at a low ebb, insomuch that, during the reign of George I, a great orientalist was a rare phenomenon.

But in the latter half of the century under consideration more encouraging prospects began to open. Indeed, within the last forty years, some

departments of oriental literature have been cultivated with a fervour of zeal, and with a brilliancy of success, highly interesting and honourable to the age. And even in those departments which have been less diligently and successfully cultivated, some events and characters have adorned this period, which are worthy of notice in the present sketch.

SECTION I.

HEBREW LITERATURE.

The first place in this chapter is due to that language in which it pleased infinite Wisdom to record and convey the divine will to man. A language which, if it be not the most ancient in the world, will doubtless be considered among those which have the best claims to this honour. With regard to this language, though it has been less studied through the learned world in general, during the last age, than in some preceding periods; yet several events took place, and a number of important publications appeared respecting it, which it would be improper to omit in the most rapid survey of oriental learning*.

* For a number of the facts and names mentioned in these paragraphs on Hebrew literature the author is indebted to his venerable friend the reverend Dr. Kunze, senior of the Lutheran clergy in the state of New York, and late professor of oriental languages in Columbia college. The various acquirements of this gentleman, and particularly his oriental learning, have long rendered him an ornament of the American republic of letters. He has proba-

The controversy respecting the *vowel points**, which was begun in the sixteenth century by Elias Levita, a learned Jew, and which was pursued with so much zeal and learning in the seventeenth, by the Buxtorfs, Capellus, Walton, and others, was continued in the eighteenth, and gave rise to much interesting discussion. Early in the century M. Masclef, a canon of Amiens, published his grammar, in which he undertook to teach the Hebrew language without points †. He was opposed by Guarinus, a Benedictine of France, with great learning and warmth; but defended by his countrymen, the famous father Charles Francis Houbigant, M. de la Bletterie, and others. The system of Masclef obtained general credit in France; but the greater number of German and Dutch critics opposed it. In England it was, with some alterations, espoused and introduced by Hutchinson;

bly done more than any individual now living to promote a taste for Hebrew literature among those intended for the clerical profession in the United States. And though his exertions have not been attended with all the success that could have been wished, owing to the want of that countenance from the public, and from individuals, which is necessary; yet he is, doubtless, entitled to the character of a benefactor of the American churches.

* The great questions concerning the Hebrew *points* respect their *antiquity* and *importance*. The first question is, whether they were invented by the *Masorites*, a set of learned Jews, who are supposed to have lived about the fifth century after Christ, and who are said by the addition of *vowels* and *accents* to have fixed the true reading of the sacred text: or whether these vowels were employed by those who first wrote the Hebrew language, and of course made a part of the original writing of the scriptures? The second question has a respect to the *utility* and *importance* of the points; or how far they are *necessary* and *useful*?

† *Grammatica Hebræa, à punctis aliisque Masorethicis inventis libera.* 1716.

who was followed by Bate and Parkhurst, and more recently by professor Wilson, of the university of St. Andrews, in North Britain.

The antiquity and importance of the *Points* have also been maintained, during the period in question, by the great Albert Schultens *, of Leyden; by the learned professor James Robertson, of Edinburgh; and by the celebrated orientalist, professor Tychsen, of Germany. On the other hand, the points have found zealous opponents in the same period, in Sharpe, of Great Britain; in Dupuis, a learned Frenchman; and in the celebrated John David Michaelis, of Germany †. The result of this controversy seems to be a general impression, among those most competent to judge, that the points cannot boast of that antiquity which Schultens and Robertson would assign to them ‡; but that they were invented by men deeply skilled in the language; that they serve as a good commentary, and are therefore of great utility, and deserve to be respectfully regarded.

In 1736 bishop Hare published a plan for ascertaining and restoring the *Hebrew Metre* §. He

* Albert Schultens was born in 1686, and died at Leyden in 1741. He was first professor of the oriental languages at Franeker, and afterwards at Leyden, where he taught them till his death. He was a stupendous orientalist.

† Professor Michaelis, in the former part of his life, was favourable to the points; but afterwards changed his opinion. He was one of the most stupendous oriental scholars of the age, and probably one of the greatest that ever existed.

‡ *Clavis Pentateuchi: sive Analysis Omnium Vocum Hebraicarum, &c.* Auctore Jacobo Robertson, S.T.D. *Ling: Orient. in Acad. Edin. Prof.* 8vo, 1770.

§ *Psalmorum Liber, in Versiculos Metricè divisus, et cum aliis*

supposed that he had revived the knowledge of the true versification of this language, and that he was in possession of principles by which it might be scanned, like any other poetry, and its rhythm discovered with the utmost precision. He supposed that in Hebrew poetry all the feet consist of two syllables; that no regard is to be paid to the quantity of the syllables; that when the number of syllables is even, the verse is *Trochaic*, and the accent to be placed on the first; but that when the number is odd, the verse is to be accounted *Iambic*, and the accent to be placed on the second syllable; that the periods generally consist of two verses, often of three or four, and sometimes of a greater number; that verses of the same period, with few exceptions, are of the same kind; that the Trochaic verses, for the most part, agree in the number of feet, but that to this rule there are a few exceptions; that in the Iambic verses the feet are in general unequal, though in some instances it is found to be otherwise. To accommodate the sacred text to these doctrines he indulged in many conjectures and fancied emendations, which were altogether capricious and unwarrantable*. This hypothesis was generally considered, by the most judicious critics, as a fan-

Critices Subsidiis, tum præcipue Metricæ ope, multis in locis integritati suæ restitutus. Edidit Franciscus Hare, S. T. P. Episcopus Cicestrensis. Tom. 2, 8vo, 1736.

* Gomarus, a learned Hebraist of Holland, in the seventeenth century, invented and taught an hypothesis concerning *Hebrew Metre*, somewhat resembling that of bishop Hare, but not attended with so many arbitrary and conjectural emendations of the sacred text.

ciful and unfounded speculation. The bishop's doctrine was, however, adopted by the reverend Dr. Thomas Edwards, of Great Britain, a contemporary Hebrew scholar of considerable reputation. It was also adopted and carried to a still greater length by Mr. William Green, also an English clergyman, in his *metrical version* of the Psalms *. But at the close of the century, it is believed, this doctrine had few if any advocates, and had entirely ceased to command public attention.

A much more valuable improvement in Hebrew literature, in the period under consideration, was that effected by the labour and talents of Dr. Lowth, bishop of London †. This profound and elegant scholar, in the year 1753, published a learned and highly interesting work on *Hebrew Poetry*, in which he displayed its structure, genius, beauties, and various kinds, more successfully than any preceding writer ‡. This great work, which is regarded by every orientalist as a very important acquisition to the Hebrew critical art, formed a memorable æra in the investigation of the subject of which it treats. The bishop has been fol-

* *A New Translation of the Psalms from the Original Hebrew.* By William Green, M.A. Rector of Hardingham, Norfolk. Svo, 1762.

† Dr. Robert Lowth was born at Winchester, in 1710. In 1740 he was elected professor of Hebrew poetry in the university of Oxford; in 1766 was made bishop of St. David's; in 1777 was translated to the see of London; in 1778 published his translation of *Isaiah*, and died in 1787.

‡ *De Sacra Poesi Hebræorum Prælectiones habite a Roberto Lowth, &c.* 4to, 1753. This work has been translated by the reverend G. Gregory, F.A.S., and published in 1787, in 2 vols Svo.

lowed in this laudable and instructive inquiry by Herder, a learned, ingenious, and eloquent writer of Germany, who is said to have pursued the subject still further, and to have thrown additional light on the spirit of Hebrew poetry.

The publication of the works of the celebrated John Hutchinson, in Great Britain, at an early period of the century, doubtless contributed something to promote the study of Hebrew in that country. It was before remarked that this philosopher and his followers laid great stress on the integrity of the common Hebrew text, and drew from a fanciful interpretation of Hebrew words many theological and philosophical principles, in their view of the utmost importance. This circumstance, of course, prompted all who applied themselves to the study of Hutchinson's writings, and especially those who studied them carefully and deeply, to acquire as much Hebrew learning as they were able. Those who have attended to the progress of knowledge in Great Britain during the last age, have probably been able to trace very distinctly the influence of this visionary philosophy in producing the effect which has been stated.

Of the great number of Hebrew grammars which have been published since the revival of letters, that of Buxtorf, till near the close of the seventeenth century, had received by far the largest share of public approbation. And though it was dry, complicated, tedious, and of course difficult to be acquired; yet as it was on the whole well constructed, and contained an excellent body of masoretical rules, it continued long to be the reigning favourite among the teachers of this language,

Capellus seems to have been the first who made a successful attempt to divest Hebrew grammar of its superfluous precepts, and perplexing appendages. Since his time the system of simplification has been carried still further by Masclef, and many others, both the advocates and opposers of the points.

At an early period of the century professor Dantz, of Germany, published a Hebrew and Chaldaic grammar, in which he almost entirely departed from the methods before in use. Instead of perplexing the learner with numberless *minutiae*, which are apt at the beginning to disgust and discourage, he presented the elements of the language in a simple, easy, and attractive form. The Dantzian method soon became general, was adopted as the ground work in innumerable subsequent grammars, and is yet the prevailing one in the schools and universities of Germany. The Hebrew grammars produced in Great Britain and Ireland, during the last age, were numerous, and a few of them highly valuable. Out of a long list which might be made, those of Parkhurst, Robertson, Gray, Wilson, Bayly, and Fitzgerald, are entitled to particular distinction *.

In the eighteenth century, for the first time,

* In the formation of some of these grammars the *Points* and *Accents* are employed; in others they are rejected; while, in a third class, a middle course is pursued between a total rejection and an unlimited admission of them. The last is particularly the case with the grammar of Dr. Fitzgerald, professor of Hebrew in the university of Dublin, published in 1799. He retains the vowel points, and such of the accents as are most distinguishable and useful. All the other accents, of which the number is considerable, he has discarded.

grammars, dictionaries, and other books, for teaching the elements of the Hebrew language, were presented to the public in *English*. Before this period all such works were in the Latin language, and of course the acquisition of this language, at least, was necessary before any thing could be done towards acquiring the Hebrew. In the last age this difficulty was removed. Those who are acquainted with no other than their native tongue are now furnished with books, by means of which they may be conveniently initiated into the knowledge of Hebrew literature, so far as is necessary for enabling them to peruse the sacred scriptures. Mr. Parkhurst, it is believed, first obliged the public with a work of this nature. His example was followed by his countryman, Mr. Bate; since which time the same means for rendering Hebrew literature more accessible have been adopted by professor Wilson, professor Fitzgerald, and several others.

Those who studied the Hebrew language in the eighteenth century derived an advantage from the circumstance of the other oriental dialects, the Syriac, Chaldaic, Arabic, and even the Coptic and Æthiopic, being more and better cultivated during this time than in any former period. The aid furnished to the student of Hebrew by the knowledge of these dialects will be readily understood and appreciated by those who have any knowledge of the subject. The labours of Reland and Schultens, in Holland; of Reineccius, the Michaelises* (especially the last of that

* In 1762 that illustrious orientalist, John David Michaelis,

name), Stock, Eichorn, Bode, Storr, and Adler, in Germany; of la Croze, in France; of de Rossi, in Italy; and of Durell, Ridley, Woide, and White, in Great Britain, to illustrate these auxiliary languages and dialects, or to present the public with various readings and versions from them, and through this medium to illustrate the Hebrew scriptures, are well known, and have often been the subjects of high praise.

The collection and collation of ancient Hebrew *Manuscripts*, which were pursued in the eighteenth century to an extent greatly beyond any former example, may be considered as among the distinguished honours of the age. In 1707 Dr. John Mill, a learned English divine, published an edition of the New Testament, with the various readings, collected from many different manuscripts, to which he had devoted the unwearied labour of thirty years. In 1752 the celebrated Wetstein, of Germany, whose talents and erudition are well known, published a work on the same plan, but, as many suppose, executed with greater judgment. He, like his predecessor, expended much time and labour in his work, and travelled into foreign countries to examine all the manuscripts that

published a number of curious and interesting questions relating to Arabic literature, which he had addressed to a number of learned men, sent by the king of Denmark into Arabia, and to which he desired their attention. These queries not only led to much inquiry, and produced much information, from the persons for whom they were immediately intended; but they also led to a more general study of the Arabic language, as an auxiliary to the Hebrew, than had before taken place in the colleges and universities of Germany.

could be procured*. These publications, together with a conviction of its utility and importance, animated Dr. Benjamin Kennicott, of the university of Oxford, to engage in a similar undertaking with respect to the Hebrew text of the Old Testament. As early as 1753, by a dissertation on the state of the common printed text, he called the attention of the religious world to his design, and laid the foundation of his great work. His plan was no sooner announced than he found ample support both of a pecuniary and literary kind†. He collated more than 700 manuscripts, obtained from different countries‡, beside many printed copies; and was enabled from these sources to present a very curious and instructive amount of various readings. In 1776 the first volume of his work appeared: and in 1780 the second, which completed his plan, was laid before

* The collations and various readings of Mill, Kuster, Wetstein, Greisbach, Matthæi, and others, will be noticed more particularly when the *Literature of the Christian Church* shall come under consideration, in the *fourth* and last part of this work.

† The *literary* aid rendered to Dr. Kennicott was received from almost every part of the Christian world, particularly from his own country, Germany, and France. The *pecuniary* aid with which he was favoured for the prosecution of his plan was derived chiefly from Great Britain, in which there was raised by subscription, for this purpose, the sum of 36000*l.* sterling. A degree of liberality which reflects the highest honour on the age.

‡ Among the great number of manuscripts examined by Dr. Kennicott, there was one from America. This belonged to the family of the late Mr. Solomon Simson, of the city of New York, who sent it to the learned collator in 1771, and had it returned in 1772. This manuscript is the 144th in Dr. Kennicott's list, under the title of "*Codex Americanus Neo-Eloracensis.*"

the world *. Every lover of oriental literature must feel himself under deep obligations to this great collator, not only for the light which his indefatigable labour threw on the sacred scriptures, but also for that taste and zeal in Hebrew literature, and particularly in biblical criticism, which his example evidently and remarkably revived in Great Britain †.

When Dr. Kennicot began his celebrated work, he entertained an opinion decidedly opposed to the integrity of the common Hebrew text of the Bible. But, though there is no reason to suppose that he altered his opinion afterwards ; yet his labours certainly produced a conviction in the minds of discerning and impartial men, entirely contrary to what he expected. They confirmed rather than destroyed the general confidence in the masoretical reading ; and instead of subserving the cause of infidelity or heresy, by unsettling the sacred text, as the *Hutchinsonians* and some others had predicted, their influence was directly of an opposite kind.

Encouraged by the success of Dr. Kennicot, and influenced, also, by the circumstance of his having a convenient and easy access to the Ambrosian library of Milan, John Bernard de Rossi,

* *Vetus Testamentum Hebraicum cum variis Lectionibus.* Elia Benj. Kennicot, S. T. P. Oxonii. 1776, 1780. 2 vols., folio.

† It is certain that since the publication of Kennicot's work the study of Hebrew has remarkably revived in Great Britain ; in which, at the close of the eighteenth century, it is probable there was a greater number of Hebrew scholars than at any former period.

professor of oriental languages in the university of Parma, undertook a similar work, which he completed, and laid before the world in 1786^{*}: He collated many manuscripts which Kennicot had never seen, and added many important readings to the former treasure. His work may, therefore, be considered a very useful supplement to that of his laborious predecessor. The same effect resulted from this publication as from that of Kennicot. It tended to confirm the masoretical text, and disappointed the hopes of those who wished to unsettle or dishonour it †. Drs. Doederlein and Meissner, of Germany, by selecting and publishing, in a cheap and convenient form, the most important and useful of the various readings exhibited by Kennicot and de Rossi, produced a work which does honour to themselves, and deserves to

^{*} *Variae Lectiones Veteris Testamenti, ex immensa MSS. editorumque Codicum congerie haustæ, et ad Samar. Textum ad vetustiss. versiones, ad accuratiores S. Criticæ fontes ac leges examinatæ, opere ac studio Johan. Bern. de Rossi, S.T.P. et in R. Parmensi Acad. Ling. Ori. Prof. tom. iv.* The author speaks thus of his work, “*Producuntur hic variae Lectiones V.T. ex immensa MSS. editorumque codicum congerie, id est, ex mille quadringentis septuaginta et amplius sacri Textus codicibus.*”

† It is well known that in the common Hebrew Bibles there are remarks, or various readings, in the margin, called *Keri*, to distinguish them from the reading in the text, called *Chetib*. The latter is, in many places, obscure and difficult of construction. The *Keri* is the Masoretical emendation, or different reading; and of these there are in the Bible about *one thousand*. It is remarkable that, of this number, *nine hundred and eighty-six* have been found in the texts of different manuscripts, by the industry of Kennicot and de Rossi. A result so honourable to the *Masorites* could scarcely have been expected.

be mentioned as one of the ornaments of the age*.

Many other publications appeared, during the eighteenth century, which facilitated and promoted the study of the Hebrew language. Among these the *Critica Sacra* of Edward Leigh, an English divine; the *Clavis Linguae Sanctae* of Christian Stock, a learned German; the *Janua Hebraicæ Linguae*, of Reineccius; the *Supplementa ad Lexica Hebraica*, by John David Michaelis; and the *Institutiones Linguae Hebraicæ*, by Schroeder, all of Germany, are worthy of high praise. The *Tractatus Stigmologicus* of the reverend Thomas Boston, a pious and learned clergyman of North Britain, deserves a distinguished place in the list of those publications which do honour to the eighteenth century, in Hebrew literature. It is too little known, and as it is more read will be more esteemed. As the seventeenth century was adorned by the Buxtorfs of Switzerland, and the study of the oriental languages greatly promoted by their example and their labours, so the eighteenth was rendered remarkable by the wonderful oriental learning, and the numerous publications on this branch of literature, by the Michaelises, of Germany. There were three in succession of this name, who all hold high and honourable places in the list of modern scholars, viz. John Henry, Christian Benedict, and John David. The last,

* *Biblia Hebraica, olim à Christiano Reineccio edita, nunc denuo cum variis lectionibus, ex ingenti codicum copia, à B. Kennicotto et Johan. Bern de Rossi, &c. ediderunt J. C. Doederlein, et J. H. Meissner, 8vo, Leips. 1793.*

who was the son of John Henry, and who was nearly half a century engaged in promoting oriental literature, exceeded both his father and uncle in this species of erudition, and, indeed, might probably with truth be pronounced the greatest orientalist that the western world ever beheld. His *Oriental and Exegetical Library**, and his numerous detached treatises, may be said to have formed a new epoch in Hebrew literature in Germany. Another work of great importance, which deserves to be mentioned, and which certainly contributed to keep alive and extend the zeal for this branch of literature which had been before excited, was a periodical publication entitled the *Universal Library of Biblical Literature*, printed at Leipsic, from the year 1777 to 1786, in eighteen volumes. This publication was conducted by professor Eichhorn, of Jena, and is full of masterly criticism, and highly valuable information for the orientalist†. To these may be added the *Oriental Library* of professor Hirt; the large and learned works of professor Hezel, professor Hasse, and professor Vater, all of Germany; and the various publications of Drs. Hunt, Sharpe, Lowth, and many others, in

* This is a periodical publication, begun in 1771, and concluded in 1783, and consists of twenty-three volumes, beside the general index. It was renewed in 1786, under the title of *Neue Orientalische Bibliothek*, and continued for a number of years, in which time there were at least eight volumes more published.

† In this rich treasure of oriental learning are found valuable treatises not only from the pen of the immediate conductor, but also many from professor Bruns, professor Tychsen, and others, whose names are a sufficient pledge for the display of great erudition and talents in oriental literature.

Great Britain, and on the continent of Europe *.

The study of the Hebrew language in America has long been at a low ebb. At the close of the seventeenth century much knowledge of this language appears to have existed among those venerable divines who planted and ministered to the churches in New England. Indeed, at that period this kind of knowledge was possessed by very few in any other part of our country. Accordingly the colleges of *Harvard*, in Massachusetts, and of *Yale*, in Connecticut, it is believed, are the only seminaries of learning in the United States in which the Hebrew language has been, for any considerable portion of time, regularly taught; and at the present period they are the only American seminaries in which there are regular oriental instructors †. A few of those destined for the clerical profession in our country make themselves acquainted, to a small extent, with this language, so inestimably important to every biblical critic; but

* For a more particular notice of several publications since those of Dr. Lowth, more particularly by Drs. Newcome, Blaney, Wintle, Hodgson, and a long catalogue of Hebrew translators and critics, the reader is referred to the fourth part of this work, under the head of *Biblical Literature*.

† If the author do not mistake, the Hebrew language has been taught in Harvard college for nearly a century, and during the greater part of that time by a professor regularly appointed for the purpose. In Yale college there has been for many years more or less attention devoted to Hebrew literature; but it was not until the autumn of 1802 that a professor for this branch of instruction was appointed. The gentleman selected to fill this office is the reverend Ebenezer G. Marsh, who has the character of an excellent Hebrew scholar.

the acquisitions of such are generally made by their own unassisted industry, or by means of private tuition *.

In 1779 the office of instruction in the Hebrew language was added to a professorship, then held in the university of Pennsylvania, by the reverend Dr. Kunze : but few availed themselves of the opportunity thus afforded for gaining a knowledge of this ancient tongue ; and the professorship was continued only for a short time. In 1784 professor Kunze removed to the city of New York, and was soon appointed to a station in Columbia college, similar to that which he had held in the university of Pennsylvania †. This professorship

* About the year 1760 the reverend J. G. Kals, a German clergyman, who had an uncommon stock of Hebrew learning, came to America. Anticipating the want of Hebrew types in this country, he brought with him a large edition of a voluminous Hebrew grammar, which he had composed, and sometime before published ; and many copies of a dictionary, also his own production, together with many other books of a similar kind. He expected, by the sale of these works, and by the encouragement which he should meet with as an instructor of this language, to gain an ample support. But he soon found that Hebrew literature was not a very saleable article in America ; and that all his zeal was not sufficient to inspire even his clerical brethren with a general taste for its cultivation. Being present at a meeting of the clergy, when some candidates for the gospel ministry were examined, and finding that ignorance of this language was not considered as a disqualification for the sacred office, he rose and made a speech, filled with reproaches, in which he denounced his brethren as “ *a generation of tipers,*” and left them with disgust. When the members of the same ecclesiastical body afterwards heard of his being in distress, and made a liberal collection for his relief, he received it with this sarcastic remark, “ I am Elijah ; the ravens must feed me.”

† Professor Kunze, soon after receiving this appointment in

had a slender support afforded to it, by an annual allowance from the legislature of New York, for five years ; but at the end of this time, the allowance being withdrawn, the department of oriental instruction was discontinued. This is one among the several instances of disreputable literary retrocession, by which the United States were distinguished at the close of the eighteenth century.

Some small publications for promoting Hebrew literature appeared in America during the century under review. Among these a Hebrew grammar, by Judah Monis, many years ago a teacher of this language in the university of Cambridge, in Massachusetts ; a grammar, by Stephen Sewall, also some time since a Hebrew instructor in the same institution ; and a work of a similar nature by Dr. Johnson, formerly president of King's college, in the city of New York, may be reckoned the most considerable*. They are only mentioned in this place as evidences that there has been some taste for Hebrew literature in Ame-

Columbia college, entered on the duties of his office with an enlightened and ardent zeal. That he might be more extensively useful, he took the earliest opportunity of sending to Europe for a number of curious and voluminous works in oriental literature ; and resolved by this means not only to furnish himself with the best publications for teaching the Hebrew language in the most profitable manner, but also for initiating his pupils into the knowledge of the *Arabic* and *Syriac* dialects, for which he is abundantly qualified. But all his exertions were rendered abortive by the unreasonable and misplaced *economy* of our legislators, who have not infrequently acted as if they considered the interests of literature among the most unimportant objects of their attention.

* Professor Kunze also composed a Hebrew grammar on an improved plan, for the use of his pupils, which he designs to publish as soon as a prospect of sufficient encouragement appears.

rica ; and especially that a few individuals have displayed some zeal for its promotion, which only required public patronage to have been more successful.

SECTION II.

ARABIC LITERATURE.

Though something was said in the preceding section of the Hebrew language having been more successfully studied in modern times, on account of the increased knowledge of Arabic literature ; yet the subject is worthy of more particular notice.

Scarcely any oriental language was so well understood in Europe, at the close of the seventeenth century, as the Arabic. The excellent publications of Erpenius and Golius, of Holland, for facilitating and recommending this branch of eastern literature, had been then laid before the world, and were of so superior a character that, by means of these helps, sir William Jones assures us we may understand the learned Arabic better than the deepest scholar at Constantinople or at Mecca *. The *Bibliothèque Orientale* of M. d'Herbelot, a very learned and entertaining work, may also be mentioned among those aids which had been furnished in the preceding century, for the attainment of the same object. Since that time further light has been thrown on the literature of

* See Sir William Jones's *Works*, vol. i, p. 39.

Arabia, by the observations of several travellers, and by the labours of various learned men.

Early in the century Adrian Reland, of Holland, and John Hudson, and Mr. le Roque *, of Great-Britain, laboured much, and with very honourable success, to illustrate the literature and science of Arabia. They were followed by Albert Schultens †, of Holland, and George Costard ‡, an English divine, who were certainly among the most accomplished Arabic scholars of the age, and whose various publications contributed to extend this species of knowledge. The latter, in particular, distinguished himself by his illustrations of Arabian astronomy; and has been pronounced, by a good judge, to be one of the most profound oriental astronomers ever born out of Asia. In Arabic literature, also, the labours of the Michaelises, Hezel, Wahl, Paulus, Bode, and Storr, of Germany; of professor White and sir William Jones, of Great Britain; and of M. Renaudot, the abbé Marigny, and M. de Sacy, of France, deserve to be mentioned with high encomium. To the above may be added the information communicated by

* *Translation of Abulfeda's Arabia*, 12mo, Lond. 1718. And also his *Account of Arabian Customs and Manners*, 12mo, Lond. 1732.

† *Monumenta Antiquissimæ Historiæ Arabum*. Schultens signalled himself by maintaining, in opposition to Gousset and Driessen, that, in order to gain a perfect knowledge of the Hebrew, it was necessary to join with it not only Chaldee and Syriac, but also, and more particularly, the Arabic.

‡ See his *Letters on the Rise and Progress of Astronomy among the Ancients*, 8vo, 1746: and also his *General History of Astronomy, including that of the Arabians*, 4to, 1777.

several travellers, among whom Niebuhr, of Denmark, holds a distinguished place.

As in the seventeenth century the learned men of Holland were the great sources of information in Arabic literature, and had done more than those of any other country in Europe to advance its cultivation ; so in the eighteenth it is believed that Great Britain and Germany successfully vied with that country in the production of eminent Arabic scholars. Still, however, Holland held a high place with respect to this branch of oriental literature. The names of Reland and Schultens alone do great honour to their nation, and may stand in the place of a host of minor orientalists.

Professor Reiske, of Leipsic, who died in 1774, after a life of more than eighty years, was one of the most able and zealous promoters of Arabic literature that the age produced. By his unremitted oral instructions, and by his valuable publications, he contributed to the rearing of a great number of excellent Arabic scholars. His successor in the professorial chair at Leipsic, E. C. Rosenmüller, is highly distinguished in the same walk of literature. His *Arabisches Elementarbuch*, &c., is represented as a work of much value, and worthy of a place in the library of every student of the Arabic language.

In 1800 professor White, of the university of Oxford, presented to the lovers of Arabic literature a curious and valuable work, entitled *Abdolla-tiphi Historiæ Ægypti Compendium Arabice et Latine*. This work was first carried to England by Dr. Pococke, the celebrated traveller. His son, a

great orientalist, undertook to translate and publish it, but never completed his undertaking. Professor White, at length, published the original Arabic, with a Latin translation, and learned notes. This has been represented as one of the most curious and valuable specimens of Arabic literature ever imported from the east.

In the eighteenth century the *Koran*, or sacred book of the Mahometans *, was, for the first time, translated into English from the original Arabic. In the seventeenth century that work was first translated into the French language, by M. du Ryer, consul of the French nation in Egypt, but in a very imperfect manner. Soon afterwards a translation from this version, with all its inaccuracies and imperfections, was made into English, by Alexander Ross, who knew but little of the French language, and nothing of the Arabic; and who of course, as might have been expected, added a great mass of mistakes to those of du

* “ The book which the Mahometans call the *Koran* or *Alcoran*, is composed of several papers and discourses of Mahomet, which were discovered and collected after his death, and is by no means that same *Law* whose excellence Mahomet vaunted so highly. That some parts of the true *Koran* may be copied in the modern one, is indeed very possible; but that the *Koran* or *Law*, given by Mahomet to the Arabians, is entirely distinct from the modern *Alcoran*, is manifest from this, that in the latter Mahomet appeals to and extols the former, and therefore they must be two different compositions. May it not be conjectured that the true *Koran* was an Arabic *Poem*, which Mahomet recited to his followers, without giving it to them in writing, ordering them only to commit it to their memories? such were the laws of the *Druids* in Gaul, and such also those of the Indians, which the Brahmins receive by oral tradition, and get by heart.” Mosheim’s *Eccles. Hist.* vol. ii, p. 158.

Ryer. But in the century under consideration this ancient record of the Mahometan faith was ably translated into English, from the original Arabic, by Mr. George Sale, an English gentleman profoundly versed in the literature of Arabia, and who accompanied his work with instructive and highly interesting annotations. The *Koran* was also translated, a few years afterwards, into the French language, by M. Savary, the celebrated traveller into Egypt*. The appearance of this version may be considered as forming an epoch in the progress of the sacred literature of Arabia among the learned of Europe. The translations of some other important works, both prose and poetical, from the Arabic, in the course of the last fifty years, may also be mentioned as favourable to the same object.

SECTION III.

PERSIAN LITERATURE.

The Persian language was also an object of considerable attention, and the knowledge of Persian literature made some progress in Europe during the last age. It was before remarked that the labours of Dr. Hyde, towards the close of the seventeenth century, contributed much to the promotion of this object. This gentleman, from various Persian and Arabian writings, from the relations of travellers, together with numerous letters from persons in the east, compiled his celebrated work on the ancient Persians, which has been ever

* This version makes a part of his *Letters on Egypt and Greece*, 6 vols, 8vo.

since regarded as a standard work in this branch of literature. Since that time much has been accomplished in the same field of inquiry. An attempt will be made to select a few out of the numerous facts and names which might be mentioned under this head.

About the middle of the century M. Anquetil du Perron, of France, made a voyage to the east, for the purpose of recovering the writings of Zoroaster, or Zaratusht, the celebrated ancient philosopher, who is said to have reformed, or founded, the religion of the Magi. After spending a number of years in Persia and India, and applying himself to Persian literature with great zeal, he returned to his own country in 1761, and not long afterwards published a work under the title of *Zend-Avesta*, a work ascribed to Zoroaster, and said to contain his pretended revelations. Though it seems to be generally agreed that this work is spurious*, and that it was compiled long posterior to the time in which Zoroaster lived; yet it is, on several accounts, an interesting publication, and a rich source of instruction to the student of Persian literature†.

About the time in which M. Anquetil published this work, the study of the Persian language began to receive much attention, and to become fashionable among some of the literati of Great Britain. Warren Hastings, under whose auspices,

* Sir William Jones, on the appearance of this work, immediately decided that it was spurious. See his *Lettre à M. A—— du P—— dans laquelle est compris l'Examen de sa traduction des livres attribués à Zoroastre*, 1771.

† *Zend-Avesta, Ouvrage de Zoroastre*, &c., 3 tom. 4to, 1771.

when afterwards governor of India, oriental literature was cultivated with so much zeal, became early in life fond of this language, and exerted himself to diffuse a knowledge of it in his own country. Sir William Jones also, while yet a youth, discovered much of that enthusiastic attachment to eastern learning, in which he afterwards made such astonishing progress *. In 1773

* Sir William Jones was one of the brightest ornaments of the eighteenth century, and in some respects one of the most wonderful men that ever existed. He died in 1794, after having lived a little more than 47 years. In this short period he had acquired an extent of learning, and a variety and elegance of accomplishments, which seldom fall to the lot of an individual. There were few sciences in which he had not made considerable proficiency, and in most his knowledge was profound. His capacity for the acquisition of languages has probably never been excelled. In Greek and Roman literature his early proficiency was the subject of admiration and applause; and knowledge, of whatever nature, once obtained by him was ever afterwards progressive. The more elegant dialects of modern Europe, the French, the Spanish, and the Italian, he spoke and wrote with the greatest fluency and precision; and the German and Portuguese were familiar to him. At an early period of life his application to oriental literature commenced; he studied the Hebrew with ease and success, and many of the most learned Asiatics have the candour to avow, that his knowledge of Arabic and Persian was as accurate and extensive as their own. He was also conversant in the Turkish idioms, and even the Chinese had attracted his notice so far as to induce him to learn the radical characters of that language, with a view, perhaps, to further improvements. It was to be expected, after his arrival in India, that he would eagerly embrace the opportunity of making himself master of the Sanscrit; and the most enlightened professors of the doctrines of *Brahmah* confessed, with pride, delight, and astonishment, that his knowledge of their sacred dialect was most critically correct and profound. To a proficiency in the languages of Greece, Rome, and Asia, he added a knowledge of the philosophy of those countries, and of every thing

he published his *History of Nadir Shah*, and the year following his *Persian Grammar*; both of which works hold an important place among the events in oriental literature with which the age is marked. The version of the former from the original Persian into French, he undertook and accomplished from a regard to the literary reputation of his country, that it might not be carried out of England with the reflection that no person had been found in the British dominions capable of translating it *. The same accomplished Briton afterwards wrote several important publications,

curious or valuable that had been taught in them. The doctrines of the Academy, the Lyceum, and the Porch, were not more familiar to him than the tenets of the *Vedas*, the mysticisms of the *Sufis*, or the religion of the ancient Persians; and whilst, with a kindred genius, he perused with rapture the compositions of the most renowned poets of Greece, Rome, and Asia, he could turn with equal delight and knowledge to the sublime inquiries or mathematical calculations of Barrow and Newton. Beside all these acquisitions, the theory of music was familiar to him; he had made himself acquainted with the modern interesting discoveries in chemistry, and his last and favourite pursuit was the study of botany, in which he made great progress, and, had his life been spared, would probably have been a reformer and discoverer. His poetic productions discover a vigorous imagination and an elegant taste. His learning and talents as a lawyer were still more eminent. His abilities and integrity as a magistrate and a judge were universally applauded; and, to crown all, the purity of his life, and the fervour of his piety as a Christian, shed a lustre upon every other accomplishment. See a *Discourse delivered before the Asiatic Society in May, 1794, by sir John Shore, now lord Teignmouth, prefixed to the first volume of Sir William Jones's Works.*

* The translation of the *History of Nadir Shah* was undertaken by sir William Jones, at the instance of the king of Denmark. For this honourable monument of learned labour, his royal employer presented him with a snuff-box!

connected with Persian literature, and shed much additional light on this department of eastern learning.

To Mr. Francis Gladwin, also of Great Britain, one of the most unwearied labourers in oriental literature which the eighteenth century produced, the public is much indebted for the aid which he rendered to students of the Persian language. Beside several important translations, which alone entitle him to distinction, he published a grammar, entitled the *Persian Monshee*; and also a *Compendious Vocabulary, English and Persian*. These were presented to the public about the year 1780, and have received great and just praise.

Beside the above-mentioned gentlemen, who were eminently distinguished as promoters of Persian literature, some others deserve to be respectfully noticed, as having contributed to the same object. Among these Mr. Richardson, by his *Specimens of Persian Poetry*, and other publications; major Davy, by his *Institutes of Timour*; major Ouseley, by his *Oriental Collections*; and M. Mirkhond, by his *Historia Priorum Regum Persarum*, have rendered important aid to the students of oriental learning. Persian literature has also been enriched, during the last age, with a number of important translations into the different languages of Europe. To these may be added the valuable information given respecting the arts, sciences, and literature, of Persia, by Tavernier, Franklin, Niebuhr, and various other intelligent travellers in that country.

SECTION IV.

HINDOO LITERATURE.

In this branch of oriental literature the eighteenth century presents a degree of progress highly interesting and honourable. Though it is now more than three centuries since Europeans first navigated to India; and though the inhabitants of that and the adjacent countries merit the attention of the curious more, perhaps, than any other people on the globe; yet it is but a few years since any suitable inquiries were instituted, and any satisfactory information obtained, respecting the literature and science of that important portion of the Asiatic continent.

Early in the century the *Lettres Edifiantes et Curieuses*, enriched with communications from missionaries in India, were published, and engaged much of the attention of the literary world *. After these M. Renaudot †, of France, and Theoph. S. Bayer ‡, a learned German, each communicated to the public some important information concerning the literature and sciences of Hindostan; insomuch that, notwithstanding the

* The principal compiler of the *Lettres Edifiantes et Curieuses* was father Charles Gobien, a Jesuit, of St. Maloes, assisted by du Halde, and others, of the same order. These *Letters* are filled with interesting accounts of the natural history, geography, policy, and literature, of the countries visited by the Jesuits. They appeared at an early period of the century, in a number of volumes.

† *Anciennes Relations des Indes, et de la Chine*, &c., 1718.

‡ *Elementa Literat. Brahmanicæ*, &c. 1732.

great improvements in oriental knowledge since their time, they are still quoted frequently, and with high respect. To these great orientalists, after an interval of many years, succeeded Mr. Holwell * and Mr. Dow †, of Great Britain, who spent some time in the east, and who professed to give the public much new and curious information concerning the religion and sacred literature of the Hindoos. The publications of these gentlemen, however, are by no means consistent with each other, or with themselves; and although they contain, especially the works of Mr. Holwell ‡, some useful and instructive matter, they are far from being considered unexceptionable authorities, by later and better informed writers.

Mr. Warren Hastings, soon after receiving the appointment of governor of Bengal, formed the design of procuring a complete code of the laws and customs of the Hindoos. With a view to the accomplishment of this design he invited, about the year 1773, a number of Brahmans, who were learned in the Sanscrit language, from Benares and other parts of the country, to convene in Cal-

* See his work on the *Fasts, Festivals, and Metempsychosis of the Hindoos*, 2 vols, 8vo, 1766, and also his *Interesting Historical Events*, 2 vols, 8vo, 1766.

† *Translation of Ferishta's Indian History*, 3 vols, 4to, 1770.

‡ John Zephaniah Holwell, esq., governor of Bengal, was among the persons confined in the *Black Hole* at Calcutta, in 1756, of which he published a narrative. He was one of the first Europeans who engaged in the study of Hindoo antiquities; and pointed out the path which others have so successfully pursued. He was, however, wholly ignorant of the Sanscrit language; and, on account of this deficiency, laboured under many disadvantages, and made gross mistakes in his investigations.

cutta. They complied with the invitation, and, after making large collections from the most authentic books, both ancient and modern, the whole was translated into the Persian language, from which an English version was published by Mr. Nath. Brassey Halhed, in 1776. The publication of this work may be regarded as an important event in the history of Hindoo literature *.

It was long ago known that all the science and literature possessed by the *Brahmans* were recorded in the *Sanscrit* †, an ancient and sacred language which was understood only by a few of the most learned among themselves, and with which the rest of mankind were wholly unacquainted. For nearly three centuries different Europeans, settled in India, sought to acquire a knowledge of this

* About the middle of the sixteenth century Akber, the sixth in descent from Tamerlane, and a prince of distinguished talents and virtues, ascended the throne of Hindostan. As in every part of his extensive dominions the Hindoos formed the great body of his subjects, he laboured to acquire a perfect knowledge of their religion, sciences, laws, and institutions; that he might conduct every part of his government, particularly the administration of justice, in a manner as much accommodated as possible to their own ideas. In this undertaking he was seconded by his vizier, Abul Fazel, a minister whose understanding was not less enlightened than that of his master. By their assiduous researches and consultation of learned men, such information was obtained as enabled Abul Fazel to publish a brief compendium of Hindoo jurisprudence in the *Ayecn Akbery*, which may be considered as the first genuine communication of its principles to persons of a different religion. About two centuries afterwards Mr. Halting imitated and surpassed the example of Akber. See Robertson's India, p. 260.

† The word *Sanscrit*, according to Mr. Wilkins, is compounded of the preposition *San*, signifying *completion*, and *Shrita*, *finished*, implying that the language is exquisitely refined and polished.

language, but without success. The Brahmans, either systematically averse to the use of any means for gaining proselytes to their religion and habits, or suspecting that some improper use was intended to be made of the information solicited, uniformly refused to instruct any one in their sacred books. But, at length, won by the address and persuasion with which the application was presented, and being convinced that no intention hostile to them or their religion was entertained by the applicants, they yielded. Mr. Nathaniel B. Haller, before mentioned, was the first Englishman who acquired a knowledge of the *Sanscrit*. He was soon followed in this interesting acquisition by Mr. Charles Wilkins and sir William Jones, who were not long in giving to the public the fruits of their labours.

The first translation ever made from the sacred language of the Brahmans into English was by Mr. Wilkins, and published in 1785. This translation was from the *Mahabarat*, an epic poem much esteemed among the Hindoos, and which, in the original, is very voluminous, consisting of more than four hundred thousand lines, of which Mr. Wilkins translated one third, but published only an episode, entitled *Bhagvat-Geeta*. The publication of this work excited great curiosity in the literary world, and was the occasion of increased attention to eastern learning. In 1786 a second translation from the *Sanscrit* language, by sir William Jones, was laid before the public. This was *Sacotala*, a dramatic poem of great antiquity, and indicating considerable refinement, both of sentiment and manners, among those who could produce or relish

it. In 1787 Mr. Wilkins again laid the republic of letters under obligations to him, by publishing a version of the *Heeto-pades*, or *Amicable Instruction*, a series of connected fables, interspersed with moral, prudential, and political maxims. These were followed by several other versions from the Sanscrit of less importance, by Mr. Wilkins, sir William Jones, and some anonymous hands.

In addition to the various translations which have been made from this ancient language, its structure, beauties, and antiquity have been the subjects of much ingenious and instructive investigation within a few years past. Among these the inquiries of Mr. Halhed*, and especially of sir William Jones, deserve particular attention, and the highest praise †. To father Paolino, formerly professor of oriental languages in the *Propaganda* at Rome, the public are also indebted for some

* Mr. Halhed is of opinion that the *Sanscrit* was, in ancient periods, current not only over all India, considered in its largest extent, but over all the oriental world; and that traces of its original diffusion may still be discovered in almost every region of Asia.

† “ The *Sanscrit* language, whatever be its antiquity, is of a wonderful structure; more perfect than the *Greek*, more copious than the *Latin*, and more exquisitely refined than either; yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong, indeed, that no philologist could examine them all without believing them to have sprung from some common source, which, perhaps, no longer exists. There is similar reason, though not quite so forcible, for supposing that both the *Gothic* and the *Celtic*, though blended with very different idioms, had the same origin with the *Sanscrit*: and the old *Persian* might be added to the same family.” See sir William Jones's *Third Discourse before the Asiatic Society*.

useful exertions to promote the study of Sanscrit. During a residence of thirteen years in India he acquired much information concerning this language, and formed a grammar, which is said to exhibit its elements in a very clear and satisfactory manner.

The institution of the *Asiatic Society*, in Calcutta, in the year 1784, forms an important æra in the history of oriental learning. The design of this association was to trace the antiquities, arts, sciences, and literature of the immense continent of Asia. It was planned and founded by sir William Jones, who was long its president, and certainly the most active and extensively useful member. How diligent and unwearied the labours of this association, and how curious and valuable the results of their investigations, are generally known by means of the several volumes of *Asiatic Researches*, which have been laid before the public in the course of the last fifteen years. In these volumes the intelligent reader will find an amount of information on the subjects of inquiry before stated, which the whole literary world could not have furnished antecedently to their appearance. By studying the *Sanscrit* language, in which the most authentic and ancient records of the Hindoos are written; by opening communications between distant regions of the east; and by frequently penetrating into the interior parts of the country, conversing with the learned men, inspecting their monuments, and observing their habits and manners; an astonishing mass of new facts has been obtained and given, by their labours, to the public; and from the same source

much more, perhaps, of still greater value may be expected. They have entered into paths of inquiry which, if diligently and skilfully pursued, must conduct to the richest treasures of information.

It is believed that neither the original *Vedas* *, which are the sacred books of the Hindoos, nor the *Shastahs*, which are commentaries upon them, have ever yet been exhibited complete in any European language. At the beginning of the eighteenth century scarcely any thing was known of these books, out of their native country. Since that time important extracts from them have been published, and a tolerable view of their contents presented to the world, first by Mr. Holwell, before mentioned; afterwards, though with less faithfulness, by Mr. Dow; and at still later periods, by sir William Jones and others †. The disclosures which these publications have effected, concerning the sacred literature of the Hindoos, have served equally to interest and to gratify the curiosity of the philosopher and the Christian.

The astronomy and chronology of Hindostan engaged much of the attention of oriental scholars, especially towards the close of the century under consideration. The honour is due to the French of having commenced this inquiry in a regular

* The books called *Vedas* are four in number. They are so denominated from *Veda*, a Sanscrit root, signifying to know.

† Sir William Jones tells us that the four *Vedas* are comprised in eleven large folio volumes, a complete copy of which was obtained by colonel Polier, of Great Britain, who resided many years at *Delhi*, and displayed the most laudable zeal in collecting Indian curiosities.

and scientific manner. M. le Gentil was the first who brought to light from the recesses of their temples, with any tolerable accuracy, the astronomy of the Brahmans *. Since he wrote, the inquiry has been pursued more fully and ingeniously by his countryman, M. Bailly †; by sir William Jones, who has contributed to the illustration of almost every part of oriental literature and science; and by Mr. Playfair ‡, of the university of Edinburgh; and still more recently by Mr. Samuel Davis, Mr. John Bentley, and others, whose valuable communications appear in the *Asiatic Researches*. To these may be added the chronological inquiries of Mr. Marsden and Mr. Paterson. The result of all which is the most complete proof that the extravagant and ridiculous claims made by the Brahmans, concerning the antiquity of their nation and their sciences §, are wholly destitute of foundation. Indeed, the latest inquiries afford satisfactory evidence not only that no antiquity inconsistent with the Mosaic chronology can be claimed by them, but that the dates of their most ancient books and records are far more

* See *Voyage dans le Mers de l'Inde, &c. par M. le Gentil*, 1769.

† *Traité de l'Astronomie Indienne et Orientale*, 1787.

‡ See *Transactions of the Royal Society of Edinburgh*, vol. ii, p. 135.

§ In all the computations of the Brahmans the most enormous extravagance appears. They suppose the period which has elapsed since the creation to be more than seven millions of years! In the same spirit of boundless absurdity, they make the circumference of the earth to be 500000000 *yojanas*, or 2456000000 British miles; and the height of many mountains to be 100 *yojanas*, or 491 British miles!

recent than even the friends of the scripture history at first supposed.

The geography of India received much elucidation, by the labours of learned orientalists in the course of the last age *. At an early period of the century John Hudson, of Great Britain, commenced this inquiry, and pursued it with honourable success. He was followed, after an interval of many years, by M. d'Anville, of France, who, in his *Antiquité Géographique de l'Inde*, and in his *Eclaircissements Géographiques sur la Carte de l'Inde*, gave a more satisfactory and scientific view of the subject than any who had gone before him. The next important publication on the geography of India was by Major Rennell, who, in his *Map of Hindostan*, and in his *Memoir* accompanying the same, made a present of incomparable value to the public. And, finally, the services rendered to this branch of oriental inquiry by sir William Jones, colonel Wilford, and several other members of the *Asiatic Society* of Calcutta, demand many acknowledgments from the friends of literature and science.

Beside the contributors to Hindoo literature above named, a number of other gentlemen, who have employed themselves in promoting the same object, deserve to be respectfully mentioned. Among these the several publications of Mr. Orme, an English gentleman much conversant in

* Though the *Geography* of India does not strictly fall under the denomination of *Hindoo Literature*; yet, as the two subjects have generally been treated in such a manner as to stand in connection with each other, it is thought proper to introduce this paragraph here.

Hindoo learning; those of Mr. Colebrooke, who has translated a body of Hindoo laws, and thrown considerable light on the history and literature of Hindostan*; the *Sketches* relating to the letters and science of that country, successively given by Forster, Crauford, and Kindersley, all of Great Britain; and the various works of different comparative value, by sir John Shore, sir William Ouseley, Mr. Burrow, Mr. Hunter, and a number more of the same country, who spent a considerable time in India, have added much to our stock of knowledge respecting that important portion of Asia. But among all the writers on this subject few have rendered such essential service to the cause of oriental literature as the reverend Thomas Maurice, a learned and ingenious English divine, who, in his *Indian Antiquities*, has collected and laid before the public a mass of information respecting the theology, geography, jurisprudence, political establishments, and various literature of Hindostan, so rich and instructive, as will entitle him to the lasting gratitude of every friend to liberal knowledge, and genuine religion †.

The living languages of India have been better and more extensively understood by Europeans of the eighteenth century than ever before. This is particularly the case with the *Bengal* language. Mr. Halhed published a *Grammar of the Bengal*

* Mr. Colebrooke, towards the close of the century, published a *Digest of Hindoo Law*, in four vols, 8vo. He was induced to undertake this work by the recommendation of sir William Jones. It is, on various accounts, a curious and valuable work.

† See *Indian Antiquities; or Dissertations relative to Hindostan*, 7 vols, 8vo.

Language, in Calcutta, in 1778, and in London in 1780. Considering this language as the sole channel of personal and epistolary communication among the Hindoos of every occupation and tribe; and considering also, that of all the oriental languages this approaches nearest to the *Sanscrit* in expression, structure, and character; every attempt to illustrate its principles, and facilitate its acquisition, may be regarded as an important present both to the literary and commercial world.

The reverend William Carey, a Baptist missionary of distinguished talents and piety, has, by his persevering labours, rendered important service to the Hindoo literature. At the close of the eighteenth century he had translated the whole Bible into the Bengal language, had printed his translation of the New Testament, and distributed a large edition of this portion of the sacred scriptures among the Hindoos. This zealous and unwearied missionary has also formed a *Sanscrit Grammar*, and has begun a *Dictionary* of the same language.

The establishment of the British East India company, and the extensive commercial arrangements of that association, may be considered as bearing an important relation to the advancement of oriental literature. The exertions of this company have extended the intercourse between Europe and Asia, have led many persons of curiosity and learning to visit that quarter of the globe, and have in various ways promoted the study of the languages and science of the east.

SECTION V.

CHINESE LITERATURE.

It is generally known that Europe is indebted to the learned men of France for almost all the knowledge of Chinese literature of which it can boast. As early as the sixteenth century a number of French Jesuits penetrated into China, and by their learning and address conciliated the favour of the government. These missionaries were followed by others, of various characters and talents, and, in fact, a succession of them was maintained, amidst many changes of reception and treatment, until after the middle of the century under consideration. The opportunities which they enjoyed for exploring the literature and science of that empire were diligently improved. Much of the information which they acquired was transmitted, at different periods, to Europe; and though the faithfulness of their narratives has sometimes been called in question, the works compiled from their letters and journals may be considered as, on the whole, the richest sources of instruction in this department of oriental inquiry *.

Toward the close of the seventeenth century M. Couplet, one of the missionaries above mentioned,

* The missionaries have been, perhaps, too freely charged with the want of *fidelity* in their accounts of China. Later inquiries have shown that there is ground for this charge, at least in some instances. Still, however, these accounts are highly valuable, and abundantly worthy of perusal.

translated such of the works of Confucius, the celebrated Chinese philosopher; as have been preserved. This was considered as an important service to literature, and gave him an honourable place in the list of oriental scholars. Not long afterwards a very extensive and interesting publication made its appearance in France, under the title of *Lettres Edifiantes et Curieuses des Missions Etrangères*. The greater part of this work, which was compiled from the papers of the missionaries, and which extended to more than forty volumes, was published at an early period of the eighteenth century, and contains an ample fund of instruction concerning the literature and science of China. This was followed by the *Anciennes Relations des Indes, et de la Chine*, of M. Renaudot, which made an important addition to the stock of information before possessed on the subjects of which it treats. To these succeeded the great work of father du Halde, entitled a *General Description of China*; and a work, under nearly the same title, by the abbé Grosier, both of which are considered as publications of the first class, and as containing much instructive matter relating to the learning, arts, and general condition of the wonderful country which they describe.

The singular intricacy of the Chinese language, the difficulty of acquiring a tolerable knowledge even of its elementary principles, and the restraints which have long been imposed upon all intercourse between the learned men of Europe and of China, have prevented an acquaintance with that language from becoming more frequent in the literary world. Hence, while the philosophy, astronomy, history,

and other sciences of China have been deeply investigated, and some knowledge of them extensively diffused, during the last age, the characters and structure of the language of that country have been but little explored. A few attempts, however, were made in the period under review, and not altogether without success, to communicate to the public some information on this subject. In the beginning of the century, and nearly about the same time, Theophilus Sigifred Bayer *, before mentioned, and M. Fourmont, a learned orientalist of France, published their researches in the Chinese language. The former was one of the greatest proficient in the literature of China that the age produced ; the latter also attained high eminence in the same walk of learning, and published a grammar of the Chinese language, which has received much praise. A few years afterwards M. de Guignes published the result of his inquiries respecting this language, and gave some specimens of its characters and words †. He was followed by M. Pauw, a learned Prussian, who presented to the world what he called *Philosophical Researches* concerning the Chinese, which, though they indicate the strongest prejudices, yet contain some useful information.

* Theophilus Sigifred Bayer was born in Germany in 1694. He acquired great knowledge of the eastern languages, and particularly the Chinese. In 1726 he was invited to Petersburg, and made professor of Greek and Roman antiquities. He died in 1738. His *Museum Sinicum*, 2 vols, 8vo, 1730, is a curious and learned work.

† See *Memoirs of the Royal Academy of Inscriptions and Belles Lettres*, especially vols, xxx, xxxvi, and xxxviii.

In 1761 a very singular and curious performance made its appearance in Great Britain. This was a translation of a Chinese novel, under the title of *Hau Kiou Chooan*, or the *Pleasing History*, in four volumes. The translation had been made a number of years before, by James Wilkinson, a British merchant, who had resided for some time at Canton, where he studied the Chinese language. The editor was Dr. Thomas Percy, who accompanied the publication with extensive and learned notes, which have a tendency not only to illustrate the composition immediately connected with them, but also to throw new light on the character of Chinese literature in general*.

In 1776 was published the first volume of an extensive work on the literature, sciences, and history of China, compiled from papers communicated by French missionaries in that country. Two Chinese young men, after residing several years in France, and receiving a liberal education, returned to their own country in 1765. They carried with them a number of questions from some learned societies of France, particularly relating to the literary and philosophical condition of China, and to which answers were requested from themselves and the missionaries. The communications made in consequence of these queries were published in the work above mentioned. In these com-

* It is said that the reverend Dr. Blair, the celebrated teacher of rhetoric in Edinburgh, once remarked, in conversation, that the *Pleasing History* contained a more authentic and interesting account of the internal state of China than all the other publications on that subject that he had ever seen.

munications, and especially in those which relate to the Chinese language, fathers Amiot and Cibot make the most respectable figure, and have given the most valuable information *. Beside these, M. le Gentil, M. Sonnerat, and M. Langles, of France; and sir William Jones, sir George Staunton, and others, of Great Britain, have given the public some instructive accounts relating to the letters, arts, and philosophy, of the Chinese empire.

A curious specimen of Chinese literature was given to the world, during the eighteenth century, by Joseph Moyriac de Mailla, a learned French Jesuit. Having made himself acquainted with the Chinese language, this ecclesiastic was sent as a missionary to China in 1703. He was greatly esteemed by the emperor Kang-Hi, who employed him in making a map of China, and of Chinese Tartary. Mailla translated the great *Annals of China* into French, part of which translation has been published by the abbé Grosier, under the following title: *Histoire Générale de la Chine*, 13 vols, 4to, Paris, 1777.—Mailla died at Peking, in the year 1748.

The last conspicuous labourer in this field of inquiry is the reverend Dr. Hagar, a learned German, who resided a number of years in the east, and gained an uncommon acquaintance with the Chinese language. His knowledge enabled him to present the public with a work on this lan-

* See *Mémoires Concernant l'Histoire, les Sciences, les Arts, &c.* extending to a number of volumes in 4to.

guage, in which he entered into a more full and satisfactory explanation of its elementary characters than had been before attempted. This is the first systematic work that has been published in Europe on Chinese writing and reading, and evinces great industry and apparent skill in the author*.

It is worthy of remark, that all the investigations in oriental literature by which the last age was distinguished, furnished new and very important arguments in favour of the truth of Revelation. Early in the century which is the subject of this retrospect, it was supposed, and some zealous adversaries of revealed religion diligently propagated the idea, that inquiries into the chronology and other sciences of several eastern nations strongly opposed, and were in a fair way wholly to destroy, the credibility of the Mosaic history. Assertions of this kind were, in particular, made with great confidence by certain sceptical philosophers of France, who were always ready to believe any thing which might release them from the obligation to believe in Christianity. Later and more accurate investigations, however, have shown that this opinion is totally erroneous, and that the

* See *An Explanation of the Elementary Characters of the Chinese Language, with an Analysis of their Ancient Symbols and Hieroglyphics, &c.*, by Joseph Hagar, D.D. Though this work was not actually published till the beginning of January, 1801; yet as both the acquisition of Dr. Hagar's Chinese learning and the composition of this work belong to the eighteenth century, they have a place assigned them within that period.

more deeply we penetrate into the literature and science of the east, the more striking evidence we find in favour of the scripture account of the creation and age of the world, and also in support of several important doctrines of the Gospel.

The light which modern oriental inquiries have thrown on the Mosaic system of chronology was before mentioned. Those who undertook to assail the sacred history by means of arguments drawn from the high assumptions of the Brahmans, and of the literati of other eastern nations, have been completely refuted; indeed the annals of science scarcely furnish an instance of hostile invaders being more entirely defeated, and their arms turned more directly against themselves. It has been proved by indisputable authorities, "that the personages who are said to have flourished so many thousand years in the earliest ages were of celestial, not terrestrial, origin; that their empire was the empire of imagination in the skies, not of real power on this globe of Earth; that the day and year of Brahmah, and the day and year of mortals, are of a nature widely different; that the whole jargon of the *Yugs*, or grand periods, and consequently all those presumptuous assertions of the Brahmans, relative to the Earth's antiquity, have no foundation but in the great solar and lunar cycles, or planetary revolutions*."

Very rich and curious information has also been

* See Maurice's *Indian Antiquities*, and his *History of Hindostan*.

derived from late oriental inquiries, which serves at once to illustrate and confirm the scripture doctrine of the *Trinity*. One of the most learned and accurate orientalists of the age considers the following facts as decisively established by recent investigations, *viz.* “First, that in the *Sephiroth*, or three superior splendours of the ancient Hebrews, may be discovered the three hypostases of the Christian trinity; secondly, that this doctrine flourished through nearly all the empire of Asia, a thousand years before Plato was born; and, thirdly, that the grand cavern-pagoda of Elephanta, the oldest and most magnificent temple in the world, is neither more nor less than a superb temple to a triune God.” If the doctrine of the Trinity be contained in the Old Testament scriptures, as it certainly is; and if some knowledge of this stupendous mystery of our holy religion were conveyed to the faithful in the earliest times, which we may safely presume to have been the case; then it was natural that some ideas of this doctrine, more or less distinct, and connected with a greater or less portion of fable, should be found, as the result of tradition, in most nations of the World. That this is really the case, the learned have long had increasing reason to believe. But the inquiries of the eighteenth century, and especially those instituted in the east, have rendered this truth more indisputably apparent than ever, and have thus furnished new evidence in favour of those precious doctrines which are connected with it, and which are fully brought to light in the Gospel.

Similar references to the *Fall* of man, and the *Deluge*, have also been found by discoveries in the east, as well as allusions of the most remarkable kind to the mission and character of the Messiah; all tending to support the idea of a common faith having descended by tradition from the family of Noah to their posterity; and thus to furnish a new, and, considered in all its relations, a most powerful argument in favour of the authenticity of the sacred history.

This tendency of literary and scientific discoveries in the east, to confirm the sacred history, has been ably displayed by sir William Jones, and other contemporary writers whose inquiries appear in the *Asiatic Researches*; but by none so extensively, and in a manner so convincing and popular, as by the reverend Mr. Maurice, in his *Indian Antiquities*, and his *History of Hindostan*.

The illustration of sacred scripture by means of circumstances incidentally mentioned in books of eastern travels is a most interesting and instructive field of inquiry, both to the philosopher and the Christian. Services of this nature, more rich and valuable than ever before, have been rendered to biblical criticism, during the eighteenth century. One of the most useful writers on this subject that the age produced was the reverend Mr. Harmer. He published an extensive and learned work, in which, by means of information derived from voyagers and travellers in the east, he placed many passages of scripture in a light altogether new; ascertained the meaning of others not discoverable by

the methods commonly used by interpreters; and proposed many probable conjectures highly instructive to the sacred critic*. Several other writers of considerable note have also presented the public with useful observations on the same subject.

* See *Observations on divers Passages of Scripture*, &c. 4 vols, 8vo, 1766 and 1787.

CHAPTER XV.

MODERN LANGUAGES.

IN this chapter nothing more will be attempted than to present some brief and general remarks on the improvements which have been received during the last age by the more cultivated living languages of Europe. To propose a discussion of greater extent would be to engage in an inquiry altogether incommensurate with the design and the limits of the present sketch.

There is no living language in Europe which can boast of greater antiquity than five or six centuries. Derived from various sources, and rising from rude beginnings to a regular and consistent character, they have been gradually becoming more rich, copious, and polished during the greater part of this time. To trace the causes and the means of these improvements through their interrupted and devious course, is here neither necessary nor possible. It would be a task of great magnitude and difficulty to the most accomplished philologist.

The portion of these improvements which belongs to the eighteenth century may, in general, be pronounced to be very great, and to demand particular consideration in tracing the revolutions and the progress of this period. It deserves the more attention on account of its connection not only with the literary and scientific, but also with the social and political interests of the age.

The *increased intercourse* of men, during the last century, led to important revolutions and improvements in the living languages. By means of this intercourse the learned of different nations have become more acquainted with the idioms and beauties of many other languages than their own; and this acquaintance has caused the respective treasures of each language to become in some degree the common property of all. Hence the more cultivated tongues of Europe have been very perceptibly enriched, within a few years, by the adoption of many significant words and phrases from each other, as well as from those which are in general less worthy of imitation.

The effects of this extended intercourse have been aided by the great number of *translations*, by which modern times are peculiarly distinguished. There never was an age in which the most esteemed literary productions of different nations were so extensively circulated, or exhibited to the world in so many different languages. The unexampled prevalence of this practice has rendered the characteristic peculiarities of various tongues better known, and produced the insensible incorporation of them with others. This is the great source of those “imported” words and phrases, which have sometimes received the approbation of philologists, but of which they have, perhaps, more frequently and justly complained.

The numerous *discoveries* in science and the arts, during the period under review, also led to the introduction and familiar use of many terms of which the learned of the preceding age were entirely ignorant. Almost the whole dialect of phi-

losophy, both natural and moral, has become new within the period in question. How rich and valuable the stores are, which language has received from this source, can only be adequately conceived by those who are able to take a distinct view of the improvements in philosophy, and all the arts of life, in the course of the last hundred years.

To the above considerations may be added the numerous instances of the new coinage of words, by popular writers, arising either from necessity, from caprice, from vanity, from affectation, or other causes. Some of these new emissions, however they may fail on the score of authority, must be considered, on the whole, as useful additions to modern languages. From this source the augmentation of our literary treasures is constant; and if due vigilance be exercised to guard against capricious and wanton innovation, substantial advantages to the interests of language may thence be expected to flow.

The influence of all these considerations, taken together, has introduced an amount of modification and improvements into modern languages, within the last century, beyond all doubt greater than was ever introduced in any preceding period of equal extent. That large additions have been made to the number of words no one can for a moment hesitate to admit. But this is by no means all that may be asserted.

The *style* of composition also, in most of the living languages, has been greatly improved since the commencement of the eighteenth century. The style of the best writers, at the present day, though perhaps inferior to the exquisite refine-

ments produced by Grecian and Roman taste, is essentially superior to that which was employed by the most correct models of the preceding age. Modern languages now exhibit more grammatical accuracy, more precision, energy, and polish, and a more graceful, luminous, and philosophic construction, than they could boast at that period. We have thrown off "the useless load of words which incumbered our predecessors," and discarded their circuitous and tedious routes to a meaning, which formerly disgusted the literary traveller. In short, the first class of writers of the eighteenth century display a smoothness and force of manner, a taste in the selection of words, and a scientific perspicuity of arrangement, which are no where to be found so admirably united in those who went before them.

These remarks do not apply, with unqualified propriety, to all the living languages of Europe. The Italian language, it is believed, was considerably before any of the rest, in attaining its highest point of refinement. This was chiefly accomplished before the commencement of the last age, since which time it is not known that any radical or important improvements have taken place in that language. The French language also, if the writer do not mistake, had received by far the greater part of that cultivation which it now exhibits, before the period of this retrospect. Still, however, it is supposed that both these languages, and especially the latter, may with truth be represented as partaking in some degree of the large mass of improvement which has accrued to many others within the last age.

But not to content ourselves with these general remarks, let us descend to the particular consideration of some of those living European languages, which may be supposed to have received the greatest number of improvements during the last century, and to be most worthy of notice*.

SECTION I.

ENGLISH LANGUAGE.

The English language has received, during this period, a large portion of the improvements which have been mentioned. From the middle of the sixteenth to the commencement of the eighteenth century, English style had been in a regular course of refinement and general melioration. The great British lexicographer, Dr. Johnson, tells us that the writings of sir Philip Sidney, who died in 1585, furnish a boundary beyond which he made few excursions in search of the “wells of English undefiled †.” After Sidney, the important succes-

* In the following sections the intelligent reader will observe that the Spanish, the Dutch, and several other important dialects of modern Europe, are omitted. The reason for this omission is the best in the world. It is because the author knows so little of those languages, and is so entirely ignorant of the details of improvement which they have received, that he cannot undertake to state them. It is presumed, however, that the improvements which have lately taken place in most of the cultivated living languages, respectively, agree in so many respects, that the exhibition of those which belong to one may be considered as applying in a considerable degree to the rest.

† *Preface to the Dictionary of the English Language.*

sive improvements conferred on our language by Shakspeare, Hooker, Milton, Clarendon, Temple, Tillotson, Sprat, Dryden, and Locke, are well known, and have been frequently the subjects of eulogium by the literary historian. But still these writers left many defects to be supplied. Their respective styles, though various, were for the most part formal, feeble, circuitous, abounding with excrescences and cumbrous parts, and in many instances perplexed, inaccurate, and inelegant to a very high degree. These charges, indeed, do not equally belong to all that have been mentioned; for few would admit that Shakspeare, Milton, and Dryden, were feeble writers. But the general application of the character above stated will scarcely be denied. And though it may be allowed that most of those writers were free from some faults which have since become fashionable, still they were chargeable with others equally great, and more inconsistent with the philosophy of language.

The eighteenth century opened with better prospects. The writings of Addison formed an important æra in English literature *. In truth, this celebrated author attained at once a style of composition so much superior to that of any who had gone before him, that none can peruse the monuments which he has left us of his taste without admiration. He was less faulty in multiplying synonymous words than his predecessors. He display-

* Joseph Addison, the son of the reverend Launcelot Addison, was born in Wiltshire, in the year 1672. He was educated at the university of Oxford; became secretary of state in 1717, and died in 1719.

ed also more judgment in the choice, and more precision in the use of terms. The forced metaphor, the dragging clause, the harsh cadence, and the abrupt close, were carefully excluded from his pages. He exhibited, in an eminent degree, that correctness, perspicuity, ease, and harmony, in which preceding writers had been so remarkably deficient. He was the first English prose writer who discovered any thing like distinguished taste in the choice and management of figures. “Pure without scrupulosity, and correct without apparent elaboration; equally free from studied ‘amplitude and affected brevity; familiar, but not coarse; and elegant, but not ostentatious*,” he deserves to be ranked among the most meritorious reformers of our language.

While Addison was employed in communicating to English style a new degree of ease and polish, Swift † was successfully engaged in cultivating it, with a particular view to its purity and precision. Endowed with a mind among the most vigorous of the age in which he lived, and directing particular attention to the subject of language, he attained distinguished excellence as a writer. He was the first who attempted to express his meaning without “subsidiary words and corroborating phrases.” He was still more sparing in the use of synonymes than Addison; and without being very solicitous about the structure or harmony of his

* Johnson.

† Jonathan Swift was born in 1667. He received his education in Trinity college, Dublin; was appointed dean of St. Patrick's in 1713, and died in 1745.—His whole works have been printed in various forms,

periods, he attended particularly to the force of individual words. Less figurative and adorned than Addison, he learned more successfully than him to avoid the diffuse and feeble manner which had so generally characterised English composition. Mr. Hume supposes that the first elegant prose in our language was written by Swift.

To Mr. Pope, also, English style is much indebted*. “He cultivated the beauties of language with so much diligence and art that he has left, in his *Homer*, a treasure of poetical elegances to posterity. His version may be said to have tuned his native tongue; for since its appearance no writer, however deficient in other powers, has wanted *melody*†.” The style of English versification attained in his hands that sweetness of harmony, that grace of embellishment, that *curiosa felicitas*, which have never since been surpassed. There is scarcely a happy combination of words, or a phrase musical and captivating, which is not to be found in his writings.

The improvements introduced by these benefactors to English literature were pursued and extended by several contemporary and succeeding writers. Among the first of these Shaftesbury and Bolingbroke hold an honourable place‡. The

* Alexander Pope was born in London in the year 1688. His first great work was his *Essay on Criticism*, published in 1704. In 1713 he published proposals for a translation of *Homer's Iliad*, which was, in 1720, completely given to the world. From this period till his death, in 1744, his history is marked by few events but those which relate to his successive publications.

† Johnson's *Life of Pope*.

‡ It will readily occur to the reader that nothing is meant to be spoken of here but the *style* of these writers. The tendency of

style of the former, though excessively and elaborately delicate, and displaying a continual fondness for artificial arrangement, and affected stateliness, is still rich and musical, and contributed not a little to improve the public taste. The writings of the latter, exhibiting the ease and elegance of Addison with more vigour, were also useful in promoting the prevalence of correct and elegant composition. Neither of them, however, can be said to have introduced a fashion of writing wholly new, or to have formed a remarkable æra in the history of the English language. The same may be said of Middleton, Fielding, Sherlock, Smollet, Hawkesworth, Goldsmith, Melmoth, and several others. With various talents and modes of expression, and with different degrees of literary merit, they all contributed something to the cultivation of style, and each displayed some new and peculiar excellence, without producing, singly, any thing like a revolution in manner.

The change introduced into English style by Dr. Johnson, deserves particular notice *. This great philologist, while he was ambitious to convey important moral and literary truth, laboured also to “refine the language of his country to grammatical purity, and to clear it from colloquial barbar-

their publications, in a moral and religious view, will be particularly noticed in a subsequent part of this work.

* Dr. Samuel Johnson was born at Litchfield, in Staffordshire, in 1706, and died in London in 1784. The history, character, and writings, of this “literary colossus” are too well known to render any minute details respecting them necessary in this place.

isms, licentious idioms, and irregular combinations; to add something to the elegance of its construction, and something to the harmony of its cadence*.” Nor did he labour in vain. He effected important improvements in English style. He improved the form of its phrases, the construction of its sentences, and the precision and appropriateness of its diction. He introduced a strength and solidity of expression; a dignity, not to say pomp, of manner, which, though becoming in him, can scarcely be imitated without danger; and in the happy art of exhibiting a number of adjunct ideas in the same sentence with perspicuity and vigour, he has rarely if ever been equalled. He enriched the language, also, with many words, adopted from the Greek and Latin. In this, indeed, he has been censured by some, and perhaps with justice, as having gone too far, and resorted to foreign aid without necessity. But though it be admitted that he has, in some instances, transgressed his own rules, yet he certainly added largely to the stores of English diction, and may, on the whole, be considered one of the greatest benefactors to English literature that the age produced.

But signal as the improvements in style which Dr. Johnson either introduced, or contributed to promote, yet it cannot be denied that, in some respects, he gave countenance to a false taste in writing. He brought into vogue a style which is, perhaps, too far removed from the ease and simplicity of colloquial discourse; which too much

abounds in artificial embellishment, formal monotonous structure, and elaborated figure; and which, when employed on subjects less dignified than those of which he usually treated, is extremely faulty. His manner, perverted and extravagantly extended, has led many fashionable writers to suppose that a continual glare of metaphor, an unceasing effort to exhibit epigrammatic point, and an undistinguishing stateliness of march, were among the superior beauties of composition. These faults, together with the short sentences, so much affected within a few years past by several popular writers, are among the fantastic errors which a spirit of misguided imitation, or a perverted taste, have brought too much into use.

It would be unpardonable, in this sketch, not to take notice of several other writers, who, toward the close of the century in question, made a distinguished figure in the annals of English style. Among these perhaps the most worthy of our attention are the author of the letters of Junius, Mr. Burke, sir Joshua Reynolds, and bishop Watson. The remarkable characteristics, and the peculiar excellence of the style of Junius are well known *. Mr. Burke, though sometimes very inaccurate, yet furnished many specimens of splendid and forcible eloquence, which would have done honour to the brightest æra of Grecian or

* The *Letters* published under the signature of Junius form one of the most curious items in the literary history of the last age. The peculiarity of their style, the boldness of their invective, and the impenetrable veil of secrecy under which their author has left his name, have excited a degree of attention and speculation rarely bestowed on the productions of genius.

Roman taste. While the writings of sir Joshua Reynolds* and bishop Watson, more chaste and correct, and scarcely inferior in force and other beauties, will long be read as admirable models of English composition.

To the above names might be added those of Dr. Beattie, Dr. Blair, and several others, both in North and South Britain, either still living or lately deceased, who have contributed to form and extend a taste for elegant writing. But to these it would be impossible to do justice without engaging in a discussion too minute for the limits of the present sketch.

In English *historical* style Hume and Robertson are, unquestionably, the best models. The former excels in ease, spirit, and interest; the latter in purity, dignity, strength, and elegance. The great improvement which they have effected in this kind of composition, since the time of Clarendon and of Rapin, must be obvious to the most careless reader. Mr. Gibbon has attempted to carry the ornaments of this kind of style much higher than his predecessors had ventured. But it seems to be the opinion of most impartial judges, that many of his favourite ornaments are meretricious; that his loftiness is often nothing more than bombast and affectation; that what he imagined to be beautiful splendour of diction is frequently disgusting glare; that aiming at a dignity far above the

* In this remark, the charge against the memory of sir J. Reynolds, as having been assisted by Mr. Burke in the composition of those noble discourses which he delivered before the Royal Academy, is taken for granted to be false, or, at least, not true to the extent which has been stated.

ease of discourse he becomes so “fantastically infolded” as to be obscure, if not unintelligible. His manner has, indeed, many beauties, but it has also multiplied blemishes; and the reader of taste will probably allow that English style has rather suffered deterioration than gained improvement by his literary labours.

The sum of the matter, then, seems to be this; that English style, since the commencement of the eighteenth century, has become more rich and copious, by a large accession of words; that it has gained a more “lofty port,” and “moves with a more firm and vigorous step;” that the structure of sentences, in our best authors, is more compressed, accurate, and philosophical; that “the connective particles are used with more attention to their genuine meaning;” and, in general, that the scientific spirit of the age has extended itself remarkably, in giving to our language that precision, spirit, force, polish, and chaste ornament, which are so frequently met with at the present day*.

The English language is, indeed, capable of much greater improvement, and will, probably, receive more than it has yet attained. Improproprieties, and violations of analogy, are to be found, in considerable number, in the best writers; and

* There are some good remarks on English style in the *Inquirer, a Series of Essays*, by William Godwin. Though no friend to human happiness can recommend the moral or religious principles of this writer, which are preeminently fitted to delude, corrupt, and destroy; yet he is himself master of a vigorous style, and his judgment on a question of literary taste is entitled to respect.

many of those words and phrases which modern innovators have introduced, a better taste will, no doubt, indignantly dismiss. If more than forty years ago a celebrated writer could complain, with justice, of numerous departures from the purity of English idiom, and deviations toward the "*Gallic* structure and phraseology," it is presumed that, since that time, the complaint has become better founded. Mr. Hume, and, in a high degree, Mr. Gibbon, to say nothing of a multitude of less conspicuous writers, are chargeable with many deviations from the purity of our language, and the introduction of many phrases by no means consistent with its analogy. Still, however, it must be admitted that these faults are accompanied with real and numerous improvements; that the style of our best authors is not only incomparably superior to that which prevailed antecedently to the time of Addison, but also, in some respects, superior to his best specimens; and that excellences of style have lately become more common and popular than at any former period; insomuch, that we now often find in an occasional pamphlet, or in the pages of a gazette, a perspicuity, energy, and elegance of diction, for which we might have looked in vain among the best models of the seventeenth century.

Beside the improvements which have taken place in English style, during the last age, the language has undergone several minuter changes, which are not unworthy of being just mentioned. The *Orthography* of our tongue has received considerable modifications. Superfluous letters have been discarded from many words. And, in the

use of capitals, great alterations have been introduced. But beside the changes in orthography which have been generally received, and are now established, several proposals were made, in the course of the century we are considering, for a more radical reform. Of this reform, which consisted in an attempt to render the spelling more conformable to the rules of pronunciation, Mr. Elphinstone of North Britain, and Dr. Franklin and Mr. Noah Webster, of America, among others, have appeared as the most conspicuous projectors and patrons, since the time of bishop Wilkins. The successive proposals and exertions of these gentlemen, to attain this favourite end, were all unsuccessful. The great majority of philologists seem to have considered them as useless in themselves, calculated to injure the analogy of the language, completely subversive of etymological principles, and productive of numerous inconveniences and evils.

The attention lately paid to English *Orthoepey* * may be considered as peculiar to the eighteenth century. The pronunciation of our language was, a few years ago, in a very crude, loose, and neglected state. This circumstance attracted the notice of several ingenious and accurate men, who, perceiving the importance of some regular and consistent plan of pronouncing, engaged in a system of reform on this subject; and by exhibiting the anomalies of pronunciation, and pointing out

* This word, like the art which it is designed to express, is of recent formation. It is derived from the Greek words *'αἰδώς*, *rectus*, and *ἐπισ*, *verbum*, and signifies the *art of pronouncing rightly*.

its analogies, were enabled to lay down rules which have proved extensively useful. Among those writers who deserve high praise on this subject Mr. Elphinstone, before-mentioned, is entitled to the first place. At the commencement of his inquiries he found *Orthoepy* in a very chaotic condition. In his *Principles of the English Language* he did much towards reducing the chaos to order, and laid down the principles of a just and regular pronunciation. But by treating the subject in a way not calculated to be popular, and by endeavouring to make an extravagant and ill-judged reform in the orthography of the language, he lost that portion of credit with the public to which his merit entitled him; and his labours were less useful than they ought to have been. After Mr. Elphinstone, Dr. Kenrick appeared as a teacher and reformer in pronunciation; and his *Rhetorical Dictionary* may be regarded as a useful contribution for this purpose. Next to him came Mr. Sheridan, who carried his improvements on this subject still further; and in his *Dictionary* gave to the public a standard of pronunciation much superior to any thing that had been offered by his predecessors. He was succeeded by Mr. Nares, who, in his *Elements of Orthoepy*, treated the subject in a new and ingenious manner, and introduced yet greater improvements. The last distinguished writer on this branch of English grammar, is Mr. Walker. This gentleman, in his *Critical and Pronouncing Dictionary*, seems to have united the different excellencies of those who went before him; to have

avoided many of their mistakes; to have supplied a large portion of their defects; and, on the whole, to have furnished the republic of English literature with the best standard of pronunciation which the language affords.

Notwithstanding the splendid excellencies of composition displayed in the writings of Addison, Pope, and Swift, all the treatises on *English Grammar* in use when they wrote were crude and unsatisfactory. The principles of the *Greek* and *Latin* tongues were transferred to the English, and grammatical works formed accordingly. On this plan every writer upon English grammar had proceeded anterior to the time of Dr. Lowth. The number and value of his improvements are generally known to grammarians. Since his time the labours of Priestley, Sheridan, Ash, Pickburn, Walker, Webster, Murray, but far beyond all others, Horne Tooke, have produced additional light and improvement in the grammar of our language. The best English grammar now extant is that by Mr. Lindley Murray, who, by this publication, and by several others connected with it, and designed as auxiliaries to its principal purpose, has become entitled to the gratitude of every friend to English literature, and to true virtue*.

At the beginning of the century in question there was no *Dictionary* of the English language which deserved the name. Not long afterwards there appeared one superior to all that had gone

* Mr. Lindley Murray is a native of Pennsylvania, but resided during the early part of his life chiefly in the city of New York.

before it, by Mr. Bailey. This work, though possessing considerable merit, especially in the *etymological* department, was still defective in so many respects that it was by no means a safe or adequate guide. Bailey was succeeded by several others of inferior note, who laboured as English lexicographers, but they did little worthy of being recorded. In this state of things Dr. Samuel Johnson, a distinguished philologist, undertook to compile a grand national dictionary, a task to which learned academies had generally been considered alone equal. His plan of the work was laid before the public in 1747, and in 1755 this wonderful production of the labour of an individual issued from the press. It must be acknowledged, that the *Dictionary of the English Language*, notwithstanding all its splendid merits, is an imperfect work. Its illustrious compiler was, in a great measure, ignorant of the *philosophy of language*, which at that period was little understood by the most profound grammarians. His *etymological* investigations are too often superficial and unsatisfactory; and his numerous omissions of words unquestionably belonging to

Having removed to Great Britain for the benefit of his health, he has employed his leisure, for a number of years, in improving the grammar of his native tongue, and in composing such other publications as have a tendency to form the minds of youth to a love of literature and of virtue. The excellence of all his literary labours, and the charitable appropriation of the product of his works, to which he has long rigidly adhered, have secured for him a station in the public esteem too high to render eulogium necessary in this place.

the language * indicate either carelessness or haste in the execution of his task. Added to these faults, his style of definition has been criticised as "loose and pedantic;" he has been accused of a needless and improper subdivision of meanings; and his frequent indulgence of a taste for "neoteric importation from the Latin," is considered by many as a departure from his own principles, by means of which the purity of our tongue has suffered injurious mixtures and adulterations. Still, however, viewing the work of Johnson as the production of one man; recollecting how small a portion of his life it employed; considering its immense superiority to every thing of a similar kind which had gone before it; and taking into the account also, that it was written "with little assistance of the learned, and without any patronage of the great; not in the soft obscurities of retirement, or under the shelter of academic bowers, but amidst inconvenience and distraction, in sickness and in sorrow," it must be regarded as a wonderful monument of philological taste, erudition, and labour.

The English dictionaries which have been given to the public since that of Dr. Johnson are numerous. They have in general, however, contented themselves with servilely copying that great lexicographer, and have made few important additions to his labours. To this general character

* Dr. Johnson, in his *Dictionary*, has collected about 48000 words. The reverend H. Croft asserted that he had made a list of 11000 more, which he proposed to introduce into a new work. See Wendeborn's *View of England*, &c.

Dr. Ash is an exception : considering his dictionary as a collection of all kinds of words, scientific, technical, obsolete, colloquial, decent, or otherwise, it is doubtless the most complete extant ; and so far as the mere *number* of words is an excellence, his work must be pronounced much superior to that of Johnson. It may fairly be questioned, however, whether such an indiscriminate admission of words, as Dr. Ash has thought proper to adopt, be not more injurious than useful. The dictionaries of Kenrick, Sheridan, Walker, with a comparative view of their respective merits, were before noticed. But as these were designed rather to promote English *Orthoepy* than the general interests of our language, the further consideration of them will not be attempted in this place.

It is worthy of remark, that the eighteenth century has produced a great *extension* of the knowledge and use of the English language. Within the last forty or fifty years this language has been gradually becoming more known among the learned of other countries, and its best models of composition more studied. Mr. Pope is said to have lamented that his writings were not likely to be much read, excepting by the inhabitants of one small island. Had he lived till the present day he would have seen better prospects opening to his literary ambition. To say nothing of the immense continent of North America, where the productions of that great poet will probably long be perused by many millions ; and to place also out of the account the extensive foreign dependences of Great Britain, where English literature is likely,

in time, to flourish; it is an undoubted fact, that the language in which he wrote is incomparably more read and spoken on the continent of Europe, since his day, than ever before.

SECTION II.

FRENCH LANGUAGE.

The French language, during the last century, received modifications and improvements in a considerable degree similar to those which have already been noticed as belonging to the English. It was before remarked that this language was some time before the English in the progress of improvement. The reign of Lewis XIV has been commonly called the *golden age* of French literature, and the period of perfection in French style. It is probable that this opinion is rather better founded than that which assigns the reign of queen Anne as furnishing the highest degree of refinement in English composition. The publication of the famous *Dictionnaire de l'Academie Française*, a great and splendid work in its day, formed an important æra in the history of the French language. The grand object of the association which compiled this dictionary, and presented it to the world, was to improve and fix their language; and there can be no doubt that the publication was, in a considerable degree, subservient to these purposes.

But to expect a living language to be absolutely stationary, is to expect that which borders on the region of impossibility. Accordingly, since the

completion of the grand national dictionary just mentioned, the French language has gained large accessions of words and phrases, and has received various kinds of melioration. The work of the academy has long been superseded by the private and better dictionary of M. Richelet, which has been honoured with high and general praise. But even the latter is far from embracing the numerous additional words with which learned philologists of that country have endowed their language. Still more recently a more full and accurate dictionary of the French language has been compiled by the abbé Feraud.

The large work of M. Court de Gebelin, on language, published a few years ago, contains an extensive and learned investigation of French *Etymology*, which has thrown new light on the structure and genius of that language. Indeed, within the last thirty years of the century under consideration, several French writers of high reputation, but of whom the author has too little knowledge to speak distinctly, have undertaken, with considerable success, to exhibit the beauties and defects of their native tongue, and to point out means for its further refinement.

The list of those writers who contributed, in the course of the last century, to enrich and polish the French language, is too large to be given at length, even if the information requisite for this purpose were possessed. Out of the great number, Fontenelle, Voltaire, Rousseau, and Buffon, deserve to be selected, as standing in the first rank. Since the date of their writings it may be doubted whether the language has gained any real refine-

ments. If an air of metaphysical abstraction, and antithetic point, be more prevalent among some late popular writers of that country than formerly, it is believed no substantial improvements have been made in the vigour, the polish, the precision, and the chaste ornaments of French style.

At the commencement of the eighteenth century it is probable that there was no living language so generally understood, and so correctly spoken, among the learned of all civilised countries, as the French. It was then spoken as the most polite medium of intercourse at several of the courts of Europe, and the acquisition of it considered as an important part of liberal education. Since that time the knowledge and use of this language have greatly extended. It has, in fact, almost become, what the Latin once was, a universal language. Perhaps it may be asserted that a larger portion of mankind, at the present day, understand and speak this language, than were ever before known to be acquainted with a living tongue*.

* Some remarks on modern improvements in the *Spanish* language would naturally follow this section, if the author were sufficiently acquainted with the nature and amount of these improvements to make even general remarks on them. It may not be improper, however, to mention that the *Royal Spanish Academy of Madrid*, founded in 1713, was instituted for the express purpose of cultivating and improving the national language. With this view, after spending many years in the requisite preliminary investigations; after devoting much attention to the selection of such words and phrases as were used by the best writers, and noting those which were either low, corrupt, or obsolete; that learned society published, in 1783, the *Diccionario de la Lengua Castellana*; a work which, though defective in *etymological* inquiries, and in several other respects, is yet by far the best extant.

SECTION III.

ITALIAN LANGUAGE.

During a great part of the seventeenth century the Italian language was in a state of comparative degeneracy. It abounded to an excess with metaphor and antithesis, allusion, and conceit ; so that, instead of the simplicity which had before prevailed, affectation and obscurity became its distinguishing characteristics. This taste was too much countenanced and promoted by the writings of Marini, Tasso, and Chiabrera, which, though monuments of great genius, yet gave currency to false principles of composition. During this period the best models of ancient taste fell into neglect ; and such were selected for imitation as favoured the glitter, the bombast, and the pedantry which were then in vogue. Of this the satires of Benedict Menzini, and of Salvator Rosa, and the discourses of Morone, Paoletti, and others, afford sufficient proof.

Towards the close of the seventeenth century these perversions of taste began to decline, and the Italian literati assumed a style more simple, unaffected, and accurate than that which had been in fashion for more than a hundred years. Apostolo Zeno, a distinguished Venetian writer, was one of the first who introduced a natural turn of sentiment and expression into his writings, and recommended this manner to his countrymen. Gravina, about the same time, recalled the atten-

tion of the learned to the best specimens of Grecian and Roman eloquence. Beside these, the poems of Lazzarini, the miscellaneous pieces of Tagliazucchi, the historical writings of Muratori, the dramatic productions of Marteli, Maffei, Cæsarotti, Alfieri, and Metastasio, the various works of the marquis of Beccaria, and many others, are entitled to particular notice, as honourable to Italian literature during the eighteenth century, and as having contributed to the progress of its improvement. By the influence of these and other writers, the Italian language gained, in the eighteenth century, a degree of purity, dignity, and general excellence, unknown even in the age of Bembo and of Casa. The ancient rules and models of taste resumed, in a considerable degree, their sway; and, what is perhaps of little less importance, some of the most classical productions of Great Britain and of France, by being translated into Italian, and naturalised in that country, have contributed in no small degree to meliorate the public taste, and to produce a reform in the literature of that country*.

SECTION IV.

GERMAN LANGUAGE.

The German language, in the course of this century, has been greatly enriched and refined. Until the middle of the century it remained in a rude and unpolished state. Such of the learned

* See *Denina's Essay on the Revolutions of Literature.*

men of that country as had then devoted themselves to philology, chiefly studied the ancient languages, to the neglect of their own. Most of their scientific publications then written were in Latin. Since that time more has been done to promote the interests of German literature, and especially to cultivate the German language, than had been done for several centuries before.

About the year 1720, the practice of employing the vernacular tongue in important scientific publications was commenced in Germany. For the introduction of this improvement the honour is chiefly due to Thomasius, an eminent metaphysical and moral writer of that country; and to Wolf, distinguished for his labours in the same department of science. Their example was soon followed by others. From that period, therefore, it became necessary for authors to cultivate their own language with greater care; the influence of which soon became visible in their writings. A few years afterward, that is to say, about the middle of the century, the practice of translating the best French and English books commenced in Germany, and produced very sensible effects in meliorating the style of writing among the German literati. These events were succeeded by the works of several authors, who wrote with a particular view to the introduction of new idioms and graces of language, and whose exertions were productive of the most useful effects*.

* See the progress of the German style more minutely traced in the 26th chapter of this book.

One of the first steps in this course of cultivation was the publication of the *Messiah*, by Klopstock. When that celebrated poem made its appearance, the many new combinations of words, and the various licences of language with which it abounded, excited much complaint among the countrymen of the author; but these innovations soon became familiar, gradually gained admirers, and at no great distance of time were generally adopted by the best German writers. Klopstock was particularly successful in improving the versification of his native language. He introduced a new style of poetry into his country; and has been generally followed as one of the best authorities in polite literature. This celebrated poet has also done much to improve the *orthography* of his language. He first suggested, and by his own example enforced, the propriety and necessity of reform in this department of the German tongue. His proposals, indeed, were not adopted in their full extent; but they led others to direct their attention towards this object; and to him therefore is due a large share of the credit arising from the improvements which have since taken place.

Next to the radical reform introduced by Klopstock, the writings of many others of the literati of that country have had a considerable influence in promoting the same object. Among these the poems of Haller; the *Idylls*, and *Death of Abel*, of Gessner; the fables and moral writings of Gelert; the numerous and diversified productions of Wieland; and the various works of Lessing, Herder, Goethe, Schiller, Voss, and many others,

have all contributed a share, to render a language once but little esteemed in Europe one of the most copious, energetic, and rich of modern tongues.

But among late German writers no individual is entitled to more honourable mention than J. C. Adelung, a celebrated philologist of that country. His labours in studying and improving his native language have been extensive, persevering, and successful to a degree almost without precedent. He has produced works, in this department of literature, with which the productions of learned academies, and royal societies, can scarcely be brought into competition. His *Grammar of the German Language* * is an elaborate and systematic work, unquestionably superior to all preceding works of a similar kind, and has contributed much towards forming and regulating the language of which it treats. But his greatest work is a *Complete Dictionary of the German Language* †. In the composition of this extraordinary work he spent the greater part of thirty years, and it is pronounced, by good judges, to come nearer to the idea of a perfect dictionary than any other effort of human diligence hitherto published. It contains a larger number of words than any other extant: the definitions are singularly lucid and satisfactory; every word is scientifically arranged, with respect to its literal and metaphorical signification; the etymologies of words are pursued with an acuteness and a skill which render them highly instruc-

* In two volumes large octavo.

† It consists of five volumes large quarto.

tive; and the author displays an acquaintance with the history of his language, and the peculiar merits of its best authors, which eminently qualified him for the task which he undertook to execute.

This grammar and dictionary, we are told, have been useful, beyond any other publications, in correcting the orthography, in exploring the etymology, and in regulating the syntax of the German language. The incessant efforts of Adelung have also served to animate and guide the exertions of his countrymen in pursuit of the same object. Since he wrote, philological inquiries have acquired an ascendancy and a prevalence in that empire which they never before possessed. Grammars, dictionaries, and critical essays, have unusually abounded. Questions for elucidating and improving the language have been published by academies and literary associations in every part of the country, and have occupied much of the attention of learned men. And, finally, their popular writers, especially their poets and dramatists, are continually adding to the stores of the language new words, and combinations of terms, which, though in some cases they have been considered as injurious innovations, have yet contributed not a little to the mass of improvement.

This language, as well as the two preceding, has been much more studied towards the close of the eighteenth century than ever before. So many interesting works in literature and science have been published in Germany, particularly within the last thirty years, that the acquisition of the language seems now to be regarded by the literati of Europe

as nearly of equal importance with that of the French or English, which have, heretofore, engaged such preeminent attention.

SECTION V.

SWEDISH LANGUAGE.

The Swedish language, in the course of a few years past, has also undergone great improvements. Previous to the middle of the century, it had been much neglected, and, like its kindred dialects, the German and the Danish, was but little esteemed in Europe. About that time John Ihre, Professor of Belles Lettres in the university of Upsal, was commissioned, by queen Ulrica Eleonora, to translate into Swedish *The Ladies' Library*, by sir Richard Steele. In obeying this command, he was naturally led not only to study his native language, but also to compare it with the more polished tongue from which the translation was to be made. The result of these inquiries was an attempt to place the language of his country on a more respectable footing than it had before held. With this view he published his *Glossarium Sueo-Gothicum*, which displays great erudition, the talents of a master in criticism, and uncommon sagacity in detecting both the faults and the beauties which he wished to make known. In this work the author exhibits, with great skill, the analogy and etymology of the Swedish language; and may be regarded as standing with the highest

in rank among its distinguished cultivators and reformers.

Since the time of Mr. Ihre other writers have employed their talents on the same subject. These writers have established rules of construction, corrected the orthography, discarded foreign phrases and corrupt modes of expression, and by producing works in a correct, elegant, and refined style, have done much to improve their native tongue. Among these, Dahnlin, Botin, Gyllenborg, Creutze, Klewberg, Leopold, and Lidner, are perhaps entitled to the most honourable mention, and furnish examples of Swedish style according to its latest and best improvements. In 1786 a literary association, under the name of the *Swedish Academy*, was established at Stockholm. The principal object of this institution is to cultivate the language of that country; with which view it is said to be preparing for publication a national *Grammar* and *Dictionary* *.

SECTION VI.

RUSSIAN LANGUAGE.

The Russian language, during the period under review, has also been much and successfully cultivated. This language, which is a dialect of the Slavonian, was, at the beginning of the eighteenth century, in a wretchedly irregular and neglected condition, very few compositions of dignified cha-

* See *A General View of Sweden*, by M. Catteau.

racter having then appeared in it. Since that time it has employed much of the attention of learned men; grammars and dictionaries have been formed, with many successive improvements; numerous translations from other languages have contributed greatly to enrich and polish it; the Russian academy has long been diligently engaged in its cultivation; and writers of taste have done much to confer upon it regularity and ornament. Previous to the year 1707 the alphabet of this language consisted of thirty-nine letters. In that year it was newly modified, and reduced to thirty. These are chiefly made up of Greek and Roman letters, together with some characters, to express sounds, which are peculiar to the Slavonian tongue. Though the language of Russia is still imperfect, it is said, by those who have studied it, to be remarkably rich, harmonious, and energetic, and well fitted for every species of composition*.

Among the improvers of Russian style in the last century the first place is due to Theophanes Prokopovitch, archbishop of Novogorod, a gentleman of learning and taste, who, during the reign of Peter the Great, laboured much to promote among his countrymen a fondness for polite literature, and especially to encourage the study of their native tongue. He was followed by Lomonozof, a distinguished poet and historian. He, as well as Theophanes, was a Russian by birth, and is styled the “great refiner” of the language of his country. Next to him stands Sumorokof, a

* *Coxe's Travels into Russia*, &c. vol. ii, chap. viii, and also *Tooke's View of the Russian Empire*.

distinguished dramatist, who displayed many beauties of composition, which were before unknown in the Russian language; and contributed greatly to the diffusion of a taste for poetry, and a zeal for philological and other polite acquirements. To these may be added the name of Kheraskof, the author of the first *Epic Poem* in his native language, a work greatly admired by his countrymen, and the appearance of which may be considered as forming an era in the history of their poetry, and, generally, in the progress of their literary character*.

In order to spread a taste for literature among her subjects, Catharine II, in 1768, appointed a committee to order and superintend translations of the classics, and the best modern authors, into the Russian tongue; and made a liberal allowance for defraying the expense of the undertaking. In consequence of this order, a considerable number of the most esteemed Greek and Roman writers, and some of the first class in the English, French, and German languages, became naturalized in her empire†. Those who have any acquaintance with philology will readily perceive, that the attempt to transfer the contents of these rich, refined, and regular languages into one less cultivated, must always communicate more or less of the excellencies possessed by the former to the latter.

Beside the numerous and important improvements in the more cultivated languages, for which

* Coxe's *Travels into Russia*. B. v. c. viii.

† Ibid.

the eighteenth century is distinguished, we may also mention, as a peculiarity of the age, equally worthy of remark, the extensive knowledge which has been acquired, by learned philologists, within a few years past, of many other living languages, even some of the most barbarous and unpolished. The amount of information communicated by modern voyagers and travellers on subjects of this nature, is great and valuable. Among these Strahlenberg, Sonnerat, Marsden, Thunberg, Forster, and many others, are entitled to honourable distinction.

The idea of tracing the origin and history of nations through the medium of inquiries into their respective languages, if not first conceived, was certainly first reduced to practice, to any considerable extent, in the century under review. It is believed that the first considerable specimen of an inquiry of this nature was given to the world by Mr. Jacob Bryant, a gentleman whose profound erudition, critical sagacity, and unwearied labour, are among the signal honours of the age *. Nearly about the same time appeared the celebrated and voluminous work of M. Court de Gebelin, before mentioned, in which, with great learning,

* It is impossible for any friend to virtue and sound learning to pronounce the name of this veteran in literature without veneration. In his *Observations and Inquiries relating to various Parts of Ancient History*, and in his *New System, or Analysis of Ancient Mythology*, he has displayed an extent and a minuteness of information truly wonderful, perhaps unequalled by any other individual living; and a degree of critical acumen, and philosophic soberness of inquiry, joined with a love of truth, and especially of Evangelic truth, which entitle him to the lasting gratitude both of the philosopher and the christian.

but with, perhaps, less judgment, he has investigated the history of nations through the same medium *.

Large and curious collections of languages remarkably abounded in the eighteenth century. Among these the collection of J. Lorenzo Hervás, a native of Spain, but residing at Rome, deserves respectful notice. This learned man, in his great work, entitled *Idea del Universo*, gave a general synopsis of all known languages, their affinities, differences, &c., of which the best judges have spoken in terms of high praise. Of later date the *Philosophical and Critical Estimate of Fourteen Ancient and Modern European Languages*, by D. Jenisch, of Germany, is also a valuable acquisition to the student of philology.

But the most extensive collection of modern languages which the last age produced, was that formed toward the close of it, by the learned academicians of St. Petersburg, in Russia. The empress Catharine II conceived the vast design of compiling a “universal and comparative vocabulary of all languages,” and ordered such a work to be undertaken. Accordingly Mr. Pallas, a distinguished member of the Imperial Academy of Sciences, assisted by a number of other learned men, engaged in the arduous task, and laid the first part of the work before the public in 1786, and another portion of it three years afterwards. This *Comparative Vocabulary* † may justly be

* *Monde Primitif analysé et comparé avec le Monde Moderne.* 9 tom. 4to.

† *Linguarum totius Orbis Vocabularia Comparativa; Augustissimæ Cæsaris Collecta. Lectionis prima, Linguas Europæ, et Asiæ com-*

ranked among the wonders of the century. Specimens of so great a number of languages were certainly never before brought together by human diligence. And the work, while it reflects great honour on the illustrious editor, and his learned coadjutors, and on the public spirit of their employer and patron, the empress, furnishes the most instructive documents, not only towards the formation of an enlightened theory of language, but also for investigating the history of man.

The *Celtic* or *Gaelic* language was the object of much inquiry to a number of learned men of the last century. Grammars and dictionaries of its different dialects were formed, and new light thrown on the structure and probable history of the language. In these inquiries Pelloutier, Bullet, Jones, Mallet, and Shaw, were much and honourably distinguished. The *Gothic*, in several of its most important dialects, was also diligently and successfully investigated, during the last age, by Wachter, Schilter, Ihre, Lye, and several other learned philologists.

Much valuable information was obtained, during the same period, concerning the languages of the *aboriginal* nations residing on the American continent. For collecting this information, and communicating it to the public, we are indebted to Charlevoix, Carver, Adair, Long, Clavigero, the rev. Mr. Zeisberger *, the rev. Dr. Ed-

plexa, *Pars prior*. Petropol. 1786, 4to: *et Pars secunda*, Petropol. 1789, 4to.

* Mr. Zeisberger was a respectable missionary, sent by the *United Brethren* to preach the Gospel among the Indians. His work referred to is an *Essay of a Delaware Indian and English*

wards*, and many other gentlemen of observation and diligence. Mr. Jefferson, the president of the United States, has also made much inquiry into the languages of the American Indians, and devoted considerable attention to the collection of specimens. But there is certainly no individual to whom we are under so many obligations for investigating these languages, and presenting rich vocabularies to the public, as professor Barton, of Philadelphia, whose name we have had occasion to mention so frequently, and with so much respect, in several of the preceding chapters of this work. This gentleman has made large collections of Indian languages †, which he has with great learning and ingenuity compared with each other, and with some of the languages of the eastern continent. By these investigations he has,

Spelling Book, printed at Philadelphia in 1776. Beside this gentleman, several other persons belonging to the same religious communion have contributed much to the elucidation of Indian languages. Among these Mr. Pyrlæus, many years ago a missionary to some of the American tribes, and Mr. Heckewalder, who at this time holds an important station in a western mission, deserve to be mentioned with particular distinction, and with many acknowledgments, for their unwearied and intelligent inquiries on this subject.

* Jonathan Edwards, D.D., late president of Union college, at Schenectady; the excellent son of a still more illustrious father, whose name was mentioned in a former chapter. Beside the great learning and talents displayed by this gentleman on various theological subjects, which will be noticed in their proper place, he published *Observations on the Language of the Muhhekaneeuw Indians*, &c., New Haven, 1788, in which, with a number of ingenious remarks on the structure and genius of the language, he gave some curious specimens of its vocabulary.

† See *New Views of the Origin of the Tribes and Nations of America*, 8vo, 1798, second edition.

not only in his own opinion, but also in the judgment of many of his best informed readers, satisfactorily proved *that there is but one radical language among the Indians on the American Continent*; and that *the nations of America, and those of Asia, have a common origin* *.

The enemies of Revelation, half a century ago,

* The following passage from Dr. Barton's work is thought worthy of being inserted at length :

“ The inference from these facts and observations is obvious and interesting: that hitherto we have not discovered more than one radical language in the two Americas; or, in other words, that hitherto we have not discovered in America any two or more languages between which we are incapable of detecting affinities (and those often very striking) either in America or in the old world. Nothing is more common than for Indian traders, interpreters, or other persons, to assert that such and such languages bear no relation to each other; because, it seems, that the persons speaking them cannot always understand one another. When these very languages, however, are compared, their relations or affinities are found out. It is by such comparisons that I have ascertained that the language of the Delawares is the language of such a great number of tribes in America. It is by such comparisons that future inquirers may discover that in all the vast countries of America there is but one language: such inquiries, perhaps, will even prove, or render it highly probable, that all the languages of the earth bear some affinity to each other. I have already discovered some striking affinities between the language of the Yolofo (one of the blackest nations of Africa) and certain American tribes. What a field for investigation does this last mentioned circumstance open! Whilst philosophers are busied in investigating the influence of climate and food, and other physical agents, in varying the figure and complexion of mankind, they should not neglect inquiries into the resemblances of all languages. The farther we push our researches of this kind, the more we discover the proofs, if not of the absolute derivation of all mankind from one pair, at least of the ancient intercourse of all the nations of the earth.”

laid great stress not only on the diversity of *complexion and figure*, but also on the *variety of languages* among men, as arguments for discrediting the sacred history. Both these arguments, by later investigations, have been clearly refuted. Indeed, modern inquiries into the languages of different nations, instead of giving countenance to the rejection of the sacred volume, have rather served to illustrate and confirm its historical records; for they have resulted, if not in complete proof, at least in establishing the highest probability, that all languages bear an affinity to each other; that they may all be traced to a common stock; and that we have reason to conclude, independently of the Mosaic history, that the human race sprang from a single pair.

CHAPTER XVI.

PHILOSOPHY OF LANGUAGE.

UNDER this head it is intended to present a brief and general view of those inquiries into the *Origin and Progress of Language*, and of *Universal Grammar*, which have been pursued with so much success in modern times. These, it is believed, are in a great measure peculiar to the period under consideration; or, at least, have been conducted more extensively and more successfully than ever before.

The *Origin* of language is a question concerning which disputes have been long and warmly maintained: some contending that it is an invention of man, gradually growing from rude inarticulate cries, into a regular, polished, and systematic form, in the progress of civilisation; and others asserting that it must have been revealed from Heaven. This controversy arose many centuries before that which is now under review; but in no preceding age was it ever considered in a manner so extensive, learned, and satisfactory. The former opinion was defended with great zeal, erudition, and ingenuity, by lord Monboddo*, of

* Lord Monboddo supposes that language is not natural to man; that men *sang* before they *spoke*; that before they arrived at the point at which language began to be used, they conversed together by signs and inarticulate cries; that from these latter language was gradually formed; that all languages are derived from *Egypt*, the great source of science and cultivation; that the Egyptian

North Britain; by father Simon, M. Voltaire, and the abbé Condillac, of France; and by J. G. Herder *, and others, of Germany. The latter doctrine was adopted, and maintained, during the period under consideration, by J. P. Sussmilch, Dr. Beattie, Dr. Blair, and by many other writers, who have treated either formally or indirectly on the subject.

The true nature and philosophy of language, or the principles of *Universal Grammar*, seem to have eluded the inquiries of the most sagacious for many centuries. A multitude of writers of the first character, from Plato down to Leibnitz, treated largely and ably on the subject; but they did little more than copy the mistakes of each other, or present a succession of delusive systems, which would not bear the test of more enlightened examination. Though this may appear strange to a careless or superficial inquirer, yet when the extreme difficulty of the subject is duly appreciated, it will no longer be a matter of surprise that so many great men should, in their investigations, have gone so wide of the mark.

After the many preceding failures to examine with success the philosophy of language, Mr. Locke undertook the task, in his great work on the

language is the same with the *Sanscrit*, or sacred language of India, of which the Greek is a dialect. See his *Origin and Progress of Language*.

* Herder accounts for the origin of language on mechanical principles, or by combining the organical structure of the body with the faculties of the mind which inhabit it, and the circumstances in which the being is placed, in whom this organisation and these faculties are united.

Human Understanding *. But while he threw much light on the doctrines of mind, and treated more successfully than any preceding writer of the composition and use of terms, he did little to advance the knowledge of universal grammar. His successor, Dr. Hartley †, assuming different ground, attempted also to form an analysis of language, and to present a philosophical view of the subject. But, like his predecessors, his labours served only to show more clearly than ever the importance, the profundity, and the difficulty of the inquiry.

Dr. Hartley was followed by Mr. James Harris ‡, a learned English gentleman, who, in his *Hermes*, professed to treat this subject in a formal and systematic manner §. He acknowledges himself to be indebted for some of the leading principles of his system to Apollonius, a learned grammarian of Alexandria; but he is, perhaps, still more indebted to professor Perizonius, a celebrated philologist of Leyden, who early in the century, in his notes on *Sanctii Minerva*, delivered nearly the same doctrines; so rearily, indeed, that good judges have denied to Mr. Harris the honour of having made any important improvement upon them.

The system of grammar taught in *Hermes* is the

* *Essay on Human Understanding*, vol. i, book iii.

† *Observations on Man*, vol. i, chap. iii. sect. i.

‡ James Harris was born at Salisbury in 1709, and educated at the university of Oxford. He died in 180. His *Works* have been lately collected in 2 vols, 4to, and a good account of his life prefixed, by his son, the present lord Malnesbury.

§ See *Hermes, or a philosophical Inquiry concerning Universal Grammar*. 1751.

following. The author divides all words into two grand classes, called *Principals* and *Accessories*. The former he subdivides into two branches, *Substantives* and *Attributives*; the latter into two others, *Definitives* and *Connectives*; so that under one of these four species, *Substantives*, *Attributives*, *Definitives*, or *Connectives*, he includes all the varieties of words. He considers articles, conjunctions, and prepositions, as having no signification of their own, but as deriving a meaning only from their connection with other terms. On these leading principles his boasted fabric rests.

Mr. Harris was doubtless a learned and ingenious man; but as some of the best judges utterly deny that his doctrines of general grammar are either original or just, it is not probable that they will long be considered as doing him much honour. His work, however was for many years received with high approbation, not only in the native country of the author, but also on the continent of Europe, and has, even yet, many ardent admirers.

About the time that Mr. Harris laid his doctrines before the public, the philosophy of grammar was an object of laborious and learned inquiry at the celebrated Greek school of Leyden. In these investigations the great Schultens, and after him professor Hemsterhuis and his disciples, made a distinguished figure. Schultens examined the derivation and structure of the Greek language with great care, and particularly gave some new and interesting views of the Greek particles. Afterwards professor Hemsterhuis * undertook to de-

* Tiberius Hemsterhuis was a native of Groningen, where he

rive the whole Greek language from a few short primitives, on a plan entirely original. His speculations were carried further, and received new light, by means of the inquiries of his pupils Valckenauer, Lennep, and others. Though the labours of these great philologists were chiefly confined to the Greek language, yet they were intended to throw light on universal Grammar, and to educe principles applicable to all languages. To give even a brief account of the various opinions which they taught would require a more intimate acquaintance with them than the writer of this retrospect possesses, and would lead to a detail inconveniently and disproportionably extended. It is sufficient to say, that though they failed to form a fair, consistent, and regular fabric, yet they furnished many insulated facts, and useful materials, and analysed many words and classes of terms, in a manner which did them great honour, and rendered important aid to the philosophical grammarian*.

The Dutch etymologists were followed by lord

was born in 1635. In 1717 he was appointed Greek professor at Franeker, and in 1740 was chosen to the same office at Leyden. He died in 1766.

* For some further information concerning the celebrated Dutch etymologists above-mentioned, see *Observations on the Nature of Demonstrative Evidence*, by Thomas Beddoes, 8vo, 1793. No man can look into the writings of Dr. Beddoes without discovering marks of a vigorous, original, and active mind. But are the precipitancy and decision with which he pronounces on some of the most important and difficult questions that occur to the human mind, and the satirical contemptuous severity which he indulges toward some of the greatest benefactors to science, consistent with the cautious and candid spirit of philosophy?

Monboddò, who, in his *Origin and Progress of Language*, gave some general views of the philosophy of grammar. Like Plato and Aristotle, to whose doctrines, especially those of the latter, he looked with the profound veneration of a disciple, he divided language into two parts, *Noun* and *Verb*, and endeavoured to bring all the other parts of speech under these general denominations. But while he adopts this division of words in one part of his work, he retracts it in others, and admits principles wholly inconsistent with the general doctrine. So that, though he must be acknowledged to have given some learned and ingenious views of language, yet the praise of having formed an original, consistent, and satisfactory system of philosophical grammar must be wholly denied him.

In 1786* this perplexing and mysterious subject, which had so long eluded the researches of philosophers, was unfolded by an English philologist of great acuteness and erudition, in a manner which the ablest grammarians have generally and justly praised. In that year was published the celebrated ΕΠΕΑ ΠΤΕΡΟΕΝΤΑ, or *Diversions of Purley* †, by Mr. John Horne Tooke, a work in which,

* As early as 1778 Mr. Tooke, in his letter to Mr. Dunning, laid before the public the substance of the *sixth, seventh, eighth, and ninth* chapters of the *Diversions of Purley*, printed eight years afterwards.

† The Greek scholar will immediately perceive that the first part of this whimsical title signifies *winged words*, and refers to the author's doctrine of derivations. The second part alludes to the celebrated seat of president Bradshaw, near Croydon, at which he amused himself with the composition of the work.

as good judges have asserted, “by a single flash of light” he has done more to explain the whole theory of language than any, or than all his predecessors. He seems at length, indeed, to have terminated the dispute, and to have dispelled the darkness which for so many ages had rested on the subject.

The leading doctrine of Mr. Tooke is, that there are only two *necessary* parts of speech, *viz.* the *Noun* and the *Verb*, and that all other words, whether *adverbs*, *conjunctions*, *prepositions*, &c. are to be considered as *corruptions* or *abbreviations* of these two; and, of course, that the latter classes of words, instead of being in themselves, as both Mr. Harris and lord Monboddo had taught, mere unmeaning sounds, might be traced to a distinct and sensible signification. In dividing all words into two grand classes Mr. Tooke agrees with the plan which lord Monboddo adopted from Plato and Aristotle; but with respect to the remaining details of his system he is original, and presents a much more consistent and philosophical view of the subject than any preceding writer. In a few small particulars also, the doctrines of the *Diversions of Purley* had been anticipated by the learned Dutch etymologists before-mentioned; but the points of coincidence between them are so few and unimportant as to take away nothing material from Mr. Tooke of the honour of originality*.

* The author of *Επεα Πτερογενία* lately published the first volume of a new and enlarged edition of this work, intended to consist of three vols. 4to. This volume is a republication of the former edition in octavo, with additional examples and illustration. But the two remaining volumes (the second is now in the

The general doctrine of Mr. Tooke, especially so far as it applies to the English language, has been pronounced by the best judges to be fully established; and the probability is strong that it applies with equal exactness and felicity to all other languages. So far as they have been investigated the result is decidedly in favour of such an opinion. The inquiries of the great etymologists of Leyden, before-mentioned, though they differ from Mr. Tooke in many respects, furnish, at the same time, strong confirmation of his doctrine. But it is plain that the absolute proof of the universal truth of this doctrine would require an extent of acquaintance with languages which can never be acquired by any individual, and which, to be collected by a number of individuals, will require a long course of patient labour. It is to be regretted that so few philologists have pursued the path marked out by Mr. Tooke, and that none have been found to extend the inquiries which he commenced, into regions which he was unable to explore. Even some of the latest writers on the continent of Europe, who have undertaken to philosophise on the subject of language, proceed chiefly upon old and exploded principles; and appear either not to be acquainted with, or not to em-

press, and will be published in November, 1805) must necessarily exhibit new matter, and we understand relate to topics not touched upon in the former part. Such disquisitions from the pen of a writer, who may be said to have formed a system, as new as it is important, on the subject of language, must afford a most interesting accession of knowledge, to all who are curious respecting the operations of the human mind or desirous to carry forward and consummate the commendable refinements of man in a state of society.

brace the discoveries of the sagacious Briton, whose work forms so important an æra in the history of philosophical grammar.

Beside the great theorists above-mentioned, the philosophy of language has been treated with great learning and ingenuity during the period under consideration, by Drs. Campbell * and Beattie †, of Edinburgh; and by president de Brosses ‡, M. Beauzee §, the abbé Girard, the abbé Condillac ||, and M. Court de Gebelin ¶, of France. The opinions taught by the celebrated Scottish professors are too generally known to render a detailed view of them here either requisite or proper; while, with respect to the doctrines of the learned French philologists, the author has too little information to attempt even a general sketch.

These inquiries into the philosophy of grammar have had, it is believed, a useful effect on many modern writings, and, with respect to their probable influence hereafter, may be regarded as of great value. Every investigation which has for its object the structure, the analysis, and the real improvement of language, doubtless tends, in proportion to its success, to advance the interests of education, to promote every department of science, especially the science of the human mind, and, in general, to increase the happiness of man.

* *Philosophy of Rhetoric*, 2 vols, 8vo.

† *Theory of Language*, published in his *Dissertations*, 2 vols. 8vo, 1783.

‡ *Formation Mécanique des Langues*.

§ *Grammaire Générale*, 2 tom. 8vo, 1767.

|| See the first volume of his *Cours d'Etude*, in 16 vols. Paris, 1775.

¶ *Hist. de la Parole*, and *Grammaire Universale*.

CHAPTER XVII.

HISTORY.

THE historic muse, during the eighteenth century, had many votaries. From the time of Tacitus to the commencement of this period, she had been supplicated by multitudes, but with little success. After the revival of letters, the first historical productions of respectable character were composed in Italy; but with these the author is too little acquainted to compare them with subsequent works of the same class. It may be asserted, however, that previous to the age under review no historians had arisen, for many centuries, who might be compared with the illustrious models of Greece and Rome, without incurring a sort of literary profanity. But early in the century which forms the period of this work the prospect brightened. Specimens of history began to appear so much superior to the uncouth and meagre compilations of preceding ages, as to inspire a just hope that a more auspicious æra was at hand.

There are several circumstances belonging to the historical productions of the eighteenth century which are peculiar to this period, and which distinguish it from all preceding times. An attempt will be made to take notice of some of the more obvious and important of these circumstances in the following pages.

The *number* of historical works produced in the course of the age is the first circumstance of a pe-

culiar kind which attracts our notice. No former period, certainly, can be compared to this with respect to the multiplication of historical records. Scarcely any portion of time, or the affairs of any nation, or the lives of any conspicuous monarchs, have escaped the notice of some writer who aspired to the rank of an historian. Indeed this, like every other department of modern composition, has become, within a few years past, so crowded with adventurers as to render the enumeration of them next to an impossible task.

The historians of the first class in the eighteenth century presented their readers with a greater portion of *truth*, and instructive matter, than any preceding writers of the same class. The works of the best Greek historians are notoriously corrupted by a large mixture of fable. The same remark may be applied, though not to an equal extent, to the finest Roman models. The best historical works of modern Europe are certainly entitled to more credit, with respect to authenticity. It is not meant to be asserted that they are free from misrepresentation and fable, with which they all, in different degrees, abound; but merely that they contain much *less* of these than their predecessors. The reasons of this superiority are obvious. The ancient historians could only consult manuscripts and traditional records. The former were comparatively rare, difficult of access, liable to mutilation and other injuries, and not easily corrected, when erroneous, by collations with many others which detailed the same facts. The latter is a source of information so obviously imperfect and fabulous that no prudent writer, in ordinary cases, would

receive materials from it with confidence. The stores of information open to modern historians are more numerous, rich, and authentic. The art of *printing* has multiplied records beyond all former example. The increased intercourse between distant countries, and the facility with which documents may be collected from every civilised quarter of the globe, also present a new and important advantage to the modern compiler of history. Accordingly this class of writers, in the course of the century under review, admitted less fiction into their narratives; stated truths in a more luminous, connected, and satisfactory manner; and went, in general, more deeply and successfully into the relations of political causes and effects, than any of their predecessors*.

We have at least one instance on record of an eloquent Greek historian attending the Olympic games, for the express purpose of publicly reciting his history to the assembled multitude. It is natural to conclude that a work formed with a view to such an exhibition would be rather an agreeable *poem*, accommodated to popular prejudices, and addressed to popular feelings, than a faithful record of facts, for the instruction of posterity. The historians of the present day lay their authorities before the reader, and their caution is excited, and their fidelity rendered more vigilant,

* This remark is meant to be a general one; but it admits of some exceptions. The histories of Clarendon and Burnet, in the preceding century, may be considered as vying, in point of *authenticity*, with the best subsequent works of the same kind. They are both said to be partial; but what book, or what mind, was ever completely free from partiality?

by the recollection that the same sources of information are open to others, and that contemporary rivals, and many classes of readers, will sit in judgment on the truth of their narratives.

Another great improvement, which began in the eighteenth century to characterise the more formal and dignified works on civil history, is connecting the progress of literature, science, arts, and manners, with the chain of civil and military transactions. Very imperfect views of these collateral, but important and interesting, objects of inquiry, are to be found in any histories of an earlier date. But of late years, and particularly within the last half century, the best historians have interwoven with their narratives of political and military events much amusing and valuable information concerning the religion, learning, laws, customs, trade, and every other object tending to throw light on the progress, genius, and condition of different communities. The importance of this improvement will be readily appreciated by those who love to study the course of improvement which the human mind has exhibited; or who reflect how intimately revolutions and other national events are often connected with the current of literary, moral, and religious opinions; and how much a knowledge of one is frequently fitted to elucidate the other.

The author to whom we are probably more indebted than to any other individual, for introducing and recommending this improvement in civil history, is M. Voltaire. His *Age of Lewis XIV* was one of the first specimens of a work upon this plan. The attention and admiration which it ex-

cited, and the degree in which it has been imitated and surpassed by several succeeding historians, are generally known.

The best historians of the eighteenth century differ from those of the same class in ancient times, in excluding *speeches* and other extraneous matter from the body of their works. This practice, it is well known, was much in vogue among the ancients, and was an important part of the *poetical* and even *dramatic* structure at which they appear to have aimed in their historical compositions*. The exclusion of every thing of this kind from the best models of history which the last age produced, deserves to be mentioned as a modern improvement. Connected with this circumstance is the practice, also recently introduced, of subjoining to historical works, in the form of appendices, those speeches, state papers, and other documents, for the support or illustration of their narratives, which would have encumbered or disfigured the text; but which, at the same time, lay open to the reader the sources of information, and augment the sum of instruction and amusement.

Another point of difference between the most respectable historians of the eighteenth century and their predecessors, consists in the superior excellence of the *style* employed by the former. It is not intended to institute a comparison with respect to this particular, between the best ancient models of history and those of modern times.

* Lord Monboddo pronounces that no man can write history as it ought to be written without the introduction of *speeches*; and that excluding them is one of the numerous symptoms of literary degeneracy which characterise modern times.

But it can be doubted by none that the first class of historical works produced in the last age far transcend in excellence of manner every specimen in this department of composition which, for fifteen centuries before, had been given to the world.

The first English historian who seems to have paid any attention to style, and who rises to any thing like the dignity of this species of composition, is lord Clarendon. The histories which preceded his, though many of them invaluable as repositories of facts, were dull and uninteresting compilations, thrown together without taste or skill, and apparently without even an attempt to excel with respect to style. He had the honour of introducing a higher kind of historical writing among his countrymen; and his work may doubtless be pronounced to have formed a remarkable æra in this branch of English literature. Though his sentences are tediously long and involved, and his narratives equally prolix and perplexed; yet he wrote remarkably well for his time, and deserves an honourable place among the improvers of historical style. After Clarendon, towards the close of the seventeenth century, came bishop Burnet, who, though inferior to his predecessor in dignity, went beyond him in sprightliness and perspicuity. He was accused of being partial to the houses of Orange and Hanover; but with respect to manner, and general authenticity, he is entitled to much praise, and certainly contributed something to the improvement of English historical style.

On entering the eighteenth century, Rapin ap-

pears as the first respectable historian *. His *History of England*, written in the French language, was first published at the Hague, in 1727, and soon afterwards translated into English by Nicholas Tindal †. Though Rapin was by no means master of an agreeable style; and though his zeal to be as full and accurate as possible, led him to protract his work to a tedious length; yet he is entitled to the honour of having compiled one of the most complete, impartial, and satisfactory histories extant. He was one of the last historians of any note who loaded the text of his work with *speeches* and *state-papers*.

In 1757 another *History of England* was published by Dr. Smollet ‡. This production is scarcely equal to the talents of the writer, being compiled in great haste, and rather with a view to profit than fame, and with scarcely any attention to original sources of information. Still with regard to style, it was a considerable step in the course of improvement, and exhibited excellences in this respect superior to any preceding English historian. In 1755 Mr. Hume published his *History of the Reigns of James I and Charles I*; in 1756 the *Reigns*

* Paul Rapin de Thoyras was born in France, and came to England in 1688, in the army of the prince of Orange. He afterwards fixed his residence in Holland, where he died, in 1725, before the publication of his history.

† Nicholas Tindal was nephew to Dr. Matthew Tindal, the celebrated deistical writer.

‡ Tobias Smollet was born at a village near Cameron, in Scotland in 1710. His first considerable work was *Roderick Random*, published in 1749, which brought him into reputation. His other works are numerous, consisting chiefly of novels. He died in 1771.

of Charles II and James II; in 1759 the Reigns of Henry VII, VIII, Edward VI, Mary and Elizabeth; and in 1761 from the Invasion of Julius Cæsar to the Commencement of the Reign of Henry VII, completing his plan for the same period with Smollet. He far excelled all his predecessors in beauty and excellence of historical style, and at once raised the character of his country, in this branch of literature, to a very high rank. His work, indeed, is charged with glaring partiality; and that spirit of hostility to religion which he was known to possess too frequently appears, whenever, in the course of his narrative, a pretext for this purpose was presented. It must even further be allowed, that, with respect to style, in which his great excellence lies, he is not without considerable faults. But in the choice and arrangement of his materials, and especially in native ease, spirit, and force of language, he has no equal among modern historians, and has certainly furnished a specimen of history which will bear a very honourable comparison with the illustrious models of Greece and Rome.

Soon after Mr. Hume's publication, his countryman and contemporary, Dr. Robertson*, gave to the public his *History of Scotland*, which was followed by the *History of Charles V*, and the *History of America*. This gentleman unquestionably deserves a place among the greatest historians of the age, if he do not occupy the very first station. Though his narrative is not equal to Mr. Hume's in ease and spirit, yet he exceeds him in uniform

* Dr. W. Robertson was born at Borthwick in Scotland in 1721, and died in 1793. A very instructive *Account of his Life and Writings* has been given by Professor Stewart, of the university of Edinburgh.

purity, dignity, and elegance of diction. In these respects Dr. Robertson may be pronounced to stand at the head of all modern historians, and perhaps to have no superior of any age.

In enumerating the first class of English historical writers, Mr. Gibbon * comes next in order. The *History of the Decline and Fall of the Roman Empire* forms an interesting article in the catalogue of modern historical works. The insidious and malignant zeal to discredit religion, so often manifested in this work, is well known. And the artificial structure, the circuitous obscurity, and the meretricious ornaments of the style are no less generally acknowledged. Notwithstanding, therefore, all the learning, and other splendid accomplishments of this celebrated historian, he is far from having furnished a model that can be safely imitated, or conferred any real improvement on this department of English literature. Nor is his work less hostile to all the interests of decorum and virtue, than to the best rules of taste and criticism †.

Though the three last-mentioned writers are generally represented as holding the first rank amongst English historians, there are some other names,

* Edward Gibbon was born at Putney in 1737. He was probably one of the most learned men of the age. His great historical work was begun about the year 1772. The first volume was published in 1776, and the last in 1788. The author died in 1794.

† Those who would see a faithful exhibition of the partiality, the want of regard to truth, and the shameful obscenity which abound in Mr. Gibbon's celebrated work, especially in the fourth, fifth, and sixth volumes of the quarto edition, will do well to consult the very able review of this part of the work by Mr. Whitaker, 8vo, 1791.

worthy of honourable distinction, belonging to the period of this retrospect. Lord Lyttleton's *History of Henry II* has long and deservedly sustained a very high character. Dr. Goldsmith's *Histories of Rome and England* are written in the agreeable style of that popular author. The *History of England* by Mrs. Macaulay is a very respectable specimen of female talents, and holds a conspicuous place in the list of English historical compositions. Beside these the histories of Dr. Henry, professor Stuart, Dr. Watson, Mr. Mitford, Dr. Gillies, Dr. Coote, Mr. Ferguson, Dr. Russell, Mr. Andrews, Mr. Belsham, and several others, have received much praise. To designate the comparative and peculiar merits of each of these would lead to a discussion altogether beyond the limits of this chapter. It is sufficient to say that, with different views, and various degrees and kinds of talents, they have all presented the public with works which do them honour, and which occupy an important space in the annals of English literature.

But it was not only in Great Britain that historians of a highly respectable character arose in the course of the last age. Most of the countries of Europe, and especially those distinguished by the cultivation of letters, may boast of a number who hold an elevated rank in the same department of literature.

The historians of France, during this period, were numerous and distinguished. Early in the century M. Rollin, by his *Ancient History**, esta-

* The respect every where paid by M. Rollin, in the course of his history, to the government and providence of God, and to

blished his character as an interesting and instructive writer, and has been more generally perused and praised than most other historians of the age. He was followed by M. Vertot*, who, in several historical works, displayed considerable talents, especially in gracefulness of manner, and in the happy art of rendering his narrative entertaining. Next in order occur the numerous and extensive historical works of M. Voltaire. There can be no question that this writer, in style, in comprehension of mind, in the philosophical cast of his inquiries, and especially in his reflections, exceeded all the former historians which his country had produced. But it requires only a slight acquaintance with his works to perceive that he is partial, uncandid, grossly defective in authenticity, and disposed, upon every pretext, to depart from probability, truth, and decorum, for the purpose of reviling the religion of Christ†. The Abbé Millot‡ suc-

Revelation, deserves particular notice, and is one of the numerous characteristics of this great work, which recommend it to the general perusal and regard of those who love truth, virtue, and piety.

* René Aubert de Vertot was born in Normandy, in 1655. His principal works are the *Revolutions of Portugal*, of *Sweden*, and of *Rome*, and *History of Malta*. He died in 1735.

† The degree of credit due to M. Voltaire, as a recorder of facts, will appear in the perusal of a work entitled the *Letters of certain Jews*, &c. written by the abbé Guenne, professor of rhetoric in the university of Paris, and published about the year 1770. In this work the author is enabled, by his profound erudition, his vigorous and penetrating mind, and his talents for mild but most efficient satire, to place the historian of *Ferney* in a point of light by no means honourable either to the accuracy of his learning or to his love of truth.

‡ Claude Francis Xavier Millot was a native of Besancon,

ceeded Voltaire, and in his *Elements of General History*, an elegant and popular work, raised a monument to the honour of himself and his country. The abbé Raynal, in his *History of the East and West Indies*, presented the public with a production, which, though not generally respected as authentic, drew much of the attention of the literary world *. To these it would be unpardonable not to add the justly celebrated *History of the Reign of Queen Elizabeth*, by mademoiselle Keralio †, which has been pronounced by good judges to be an impartial and elegant production. Several other respectable historians appeared in France, towards the close of the century, who would deserve to be mentioned in connection with the foregoing names, did our plan admit of entering into further particulars.

In Germany no historical work deserving of high praise, with respect to arrangement, structure and style, had appeared prior to the middle of the century under consideration. Since that time the successive works of Schmidt, Muller, Haberlin, Heinrich, Schiller, Wagner, Galletti,

where he was born in the year 1726. He belonged, for some time, to the order of Jesuits; was, for several years, professor of History at Parma; and died in 1785. Beside his *Elements of General History*, the best known of his works, he published *Elements of the History of France*, and *Elements of the History of England*.

* The abbé Raynal's work is said, by Mr. Bryan Edwards, to have no more title to the character of authentic history than *Robinson Crusoe*. This is, probably, an extravagant mode of expressing what is no doubt true, that the abbé is often chargeable with taking his statements from imagination rather than from authentic records.

† *History of the Reign of Elizabeth Queen of England*, 4 vols, 8vo, 1785.

Buchholz, Beck, Meiners, Wieland, Baczko, and several others, have raised the character of their country with respect to this species of composition. Of these it is believed that Schiller, in ease, spirit and interest of narrative, and in correctness and elegance of style, stands at the head of the list of German historians.

In Sweden, Benzelius and Wilde, soon after the commencement of the century, first undertook to present the history of their country in a connected and agreeable form. They were succeeded by Dahlin, who pursued the same course with more taste and success. About the same time appeared the work of Botin, which is much distinguished for the excellence both of its matter and style. Beside these, a still larger performance of Lagerbring deserves a respectful notice among the improved specimens of history which that country produced during the period of this retrospect. To the above names may be added those of Celsius and Hallenberg, who have also been considerably praised, in their own country, for several historical compositions *.

The historians of the rest of Europe, during this period, though numerous, were few of them extensively known, or highly esteemed. The *History of Naples*, by Giannoni, has been much admired for the purity of its style, and the justness of its sentiments. That of *Denmark*, by the chancellor P. F. Suhm, is said to be a work indicating considerable erudition and talents. The *History of Mexico*, by Clavigero, and the *History of the New World*, by

* Catteau's *View of Sweden*, chap. xxiii, 8vo, Lond. 1790.

Munoz, as they supplied, in some degree, important *desiderata* in the republic of letters, may be regarded as among the most interesting of the numerous volumes which might be recounted, did our limits admit of such details.

On the whole, it is believed that Great-Britain produced the best models of historical composition of which the eighteenth century can boast. Though some of the French historians, and particularly M. Voltaire, seem to have led the way in forming the present improved taste in this species of writing; yet there can be no doubt but that their British successors went far beyond them, and produced histories which, in the choice and arrangement of facts, in dignity, purity, and elegance of style, and in general authenticity, display an assemblage of excellences which were never before equalled in any age or country. Next to these the historians of France and Germany justly claim superior rank. The other countries of Europe stand in an order, with respect to degrees of excellence, which it is neither easy nor necessary to adjust.

Though America has not yet produced historians who can vie with the first class of British models, yet she has given birth to a number quite proportioned to her literary age and standing, and some which will do her lasting honour. These all belong to the eighteenth century. The first historical work published by a native American was the *History of Virginia*, by the reverend William Smith, president of William and Mary college. This gentleman was learned, collected his materials with a singularly minute care, and, it is said, may be relied on, as exceedingly faithful and

accurate; but his manner is inelegant and uninteresting. Mr. Smith was followed by Mr. Beverly, who wrote the history of the same province, up to the year 1700. If his predecessor were too minute and tedious, Beverly ran into the opposite extreme, and failed of being so instructive or pleasing as he might otherwise have been, from his excessive brevity.

The next American who displayed his talents in this department of literary labour was Mr. Cadwalader Colden, lieutenant-governor of the province of New-York, who was before mentioned as a respectable physician, botanist, and astronomer. His *History of the Five Nations of Indians* is another monument of his talents and diligence. In 1756 Mr. William Smith published his *History of the Province of New-York*, a work, which, though executed at an early period of the life of the author, and in great haste, yet affords a large and very valuable amount of instruction to the student of American history. In 1765 Mr. Samuel Smith published a *History of New Jersey*, which appears to be a judicious and faithful compilation. A few years afterwards governor Hutchinson presented to the public his *History of Massachusetts*, which holds a respectable rank among the historical productions of this country. He was followed by Dr. David Ramsay of South-Carolina, who, in his *History of the American Revolution*, and his *History of the Revolution in South-Carolina*, has done honour to his fidelity, diligence, and literary taste. In 1792 the reverend Dr. Jeremy Belknap completed his *History of New-Hampshire*, a work which will long be con-

sidered as an honourable testimonial of the industry and judgment of the author*. Two years afterwards Dr. Samuel Williams gave to the public his *History of Vermont*, which indicates an ingenious and philosophical mind, and contains much useful information. The next American history is that of the *District of Maine*, by James Sullivan, esquire, which affords a considerable portion of interesting instruction to the student of American history. In 1797 appeared the *Civil and Ecclesiastical History of Connecticut*, by the reverend Dr. Benjamin Trumbull, a performance which, for the fulness of the information which it exhibits, and the minute accuracy and fidelity manifested in every part of the narrative, deserves high praise†. In the same year was published a *History of Pennsylvania* by Mr. Robert Proud, which, though not distinguished by much taste in the selection and arrangement of its materials, or by the correctness or elegance

* Dr. Belknap will long be respectfully remembered by the friends of literature in Massachusetts, and in the United States. Beside presenting the public with works which must be considered among the best specimens of history and biography that our country has produced, there were few men in America more learned, of more solid and useful talents, or more devoted to the establishment and support of literary and scientific institutions. He who shall attempt hereafter to give a view of the progress of literature in New-England, and especially in Massachusetts, must assign a conspicuous place to the character and labours of Dr. Belknap.

† This gentleman is now engaged in compiling a *History of the United States*, on which he has bestowed much labour, and of which those who know his fidelity and accuracy entertain high expectations.

of its style, is yet entitled to credit as a faithful compilation of facts, especially as it presents a concise view of the society of *Friends*, and a very satisfactory account of the settlement and progress of that denomination of Christians in Pennsylvania. The last important work of this kind given to the American public is a *Continuation of the History of Massachusetts*, by George R. Minot, esquire, of that State, a work of considerable merit, and which it is hoped the ingenious author will be induced soon to complete*.

A new plan of history was introduced, a few years ago, by the reverend Dr. Henry of Edinburgh, in his *History of Great Britain* †, in which the civil, military, naval, commercial, constitutional, and scientific departments of his work are severally placed in distinct chapters, and while their mutual influence is stated, may each be read separate from the rest, through the whole period embraced by the historian. In this plan he was followed, with some improvements, by Mr. James P. Andrews, whose premature death the literary

* Since the above was written, this gentleman, to the regret of all who knew him, has been removed by death. His learning and talents, combined with a degree of modesty, urbanity, and dignity of character truly rare, endeared him to a large and respectable circle of friends, and rendered him one of the ornaments of his native State. Seldom has the memory of any man been more highly respected, or more fondly cherished by his acquaintance, than that of George Richards Minot.

† Some years before the appearance of Dr. Henry's work, Dr. Mosheim had adopted a plan somewhat similar in his *Ecclesiastical History*. Dr. Henry is entitled to the honour of having introduced this plan into *civil history*, and of having conferred upon it several important improvements.

world has much reason to regret; and to whom it is hoped some successor will appear as competent to tread in his steps as he was in those of Dr. Henry.

The mode of writing history in the form of *Letters* is, in a great measure, if not entirely, peculiar to the century under consideration. This form of historical composition, it is believed, was first introduced into the English language by Dr. Goldsmith*, and was afterwards adopted by Mrs. Macaulay†, Dr. Russell, and others. That it presents some advantages, chiefly on the score of that ease and familiarity admissible in the epistolary style, is obvious; but whether it be consistent with the proper structure, continued narrative, and true dignity of history, may certainly be questioned.

A new species of historical composition, to which the age under review has given rise, is that which is commonly called *Statistical History*. The word *Statistics*, as the name of a peculiar kind of inquiry, was first introduced into the English language by sir John Sinclair. He derived it from the German writers, who have long employed the term to signify those topics of inquiry which interest the *statist*, or *statesman*. That is a proper *Statistical* history of any country which exhibits every thing

* The *History of England*, in the form of *Letters from a Nobleman to his Son*, in 2 vols, 12mo, was ascribed to lord Lyttleton, to the earl of Orrery, and other noble writers; but was, in reality, written by Dr. Goldsmith.

† Mrs. Macaulay, in her *History of England from the Revolution to the present Time*, 4to, 1778, adopts the mode of writing in *Letters*, addressed to the rev. Dr. Wilson.

relating thereto, which the *rulers of the State* are concerned to examine and to know. Those who have written histories of this kind in Germany are numerous. Achenwall of that country is generally considered as the father of regular statistics: he has been followed by many of his countrymen. The first and most conspicuous *Statistical* historian in the annals of English literature is sir John Sinclair, who has collected, in this form, an amount of information concerning North Britain, which does much honour not only to the individuals who furnished the information, but also to the industry and public spirit of the editor*.

The execution of a plan of *Universal History*, to any considerable and useful extent, was first accomplished in the eighteenth century. It is certain that English literature can boast of no respectable production of this kind before the commencement of the period in question. Since that time works of this nature have been compiled in various parts of Europe, and some of them are entitled to high praise, with respect both to their fulness and their judicious structure.

The last age was also very productive of another class of historians, which had appeared in the preceding one, in a great measure peculiar to it. These are the persons who have undertaken to deduce the progress, and exhibit the condition,

* Proposals have been published for the compilation of *statistical histories* of several of the American States, and smaller districts of our own country. Among the most important and promising of these are the proposals made by the Connecticut Academy of Arts and Sciences, to publish a statistical history of that State. From the talents and learning included in that body, high expectations are formed concerning their projected work.

of *Counties*, *Cities*, and other particular *Districts*: and they are so numerous that they would form a library of themselves.

There is another species of historical composition, in some measure peculiar to the age under review, of which several meritorious specimens have been given. It consists in an exhibition of ancient events, literature, and manners, under the denomination of *Travels*, and in the fictitious style of *Romance*. In this class of writings the *Athenian Letters*, printed in Great Britain in 1740, are entitled to the first place. This work consists of the imaginary correspondence of a set of Greeks, the contemporaries of Socrates, Pericles, and Plato; but in reality of the actual correspondence of a society of ingenious and learned gentlemen in the university of Cambridge, who, under fictitious characters, communicated to each other the result of their researches into ancient history, and, through this medium, laid before the public an entertaining and instructive work *. The next

* When this correspondence had continued for a considerable time, and the number of letters had become so large as to render the transcribing of them for the use of the association too troublesome, it was agreed to print *twelve* copies, which was accordingly done, in the year 1740; but the work was not then published. In 1781, another small edition of *one hundred* copies was printed; but the work could not yet be said to be published, as the circulation of it was confined to a few individuals. It was not until 1798 that it was, strictly speaking, laid before the public, in two vols, 4to. This work is said to be the best commentary on Thucydides that ever was written. It was at first supposed that Barthelemi had taken the plan of his work from this publication; but it has since appeared that he had never seen the *Athenian Letters* previous to the completion of his celebrated *Travels of Anacharsis*.

remarkable production of this kind, which has been still more celebrated than the *Athenian Letters*, is the *Travels of Anacharsis*, by Barthelemi *. The models of this learned composition are said to have been the *Cyropædia*, and the *Travels of Cyrus*; and the author, we are told, devoted to it the labour of thirty years. Its great merit and singular popularity are well known. *The Travels of Antenor*, by M. Lantier, in imitation of Barthelemi's work, is, in every respect, inferior to that curious production.

Beside the various kinds of history which have been mentioned, the eighteenth century produced histories of several *Arts, Sciences*, and departments of *Literature*. These, if not peculiar to this period, have greatly increased, in the course of it, in number, accuracy, and value. Of the large list which might be recited, it is proper to notice, with particular respect, the learned and judicious *History of Philosophy*, by Brucker, abridged and presented in an English dress, by Dr. Enfield; the *History of Astronomy*, by M. Bailly; the *History of Optics* and of *Electricity*, by Dr. Priestley; the *History of Chemistry*, by Boerhaave, Wiegand, and others; the *History of Medicine*, by le Clerc and Sprengel; the *History of English Poetry*, by Dr. Warton; the *History of Music*, by Sir John Hawkins, and Dr. Burney; the *History of the Law of Nations*, by Ward; the *History of Jacobinism*, by the abbé Barruel; and the history

* Jean Jacques Barthelemi was born in Provence, in 1716. He published the *Travels of Anacharsis* in 1788, and died in 1795. His learning was various and profound, and his modesty and good nature were no less remarkable.

of the *Fine Arts*, by the abbé Winckelmann, and others.

The plan of publishing large *Collections of State Papers*, for historical purposes, though conceived, and in some degree executed, before the commencement of the eighteenth century, yet preeminently belongs to this period. Never, certainly, were collections of this kind so numerous, extensive, and rich, or so useful to the historian, as during the last age. They were so numerous, indeed, that no attempt can be made here to recount even the most voluminous and remarkable which were compiled in various parts of Europe. The most curious and valuable *Collection* of this kind that has been made in America is that by Mr. Ebenezer Hazard, of Philadelphia, who, for his useful labours, is entitled to the thanks of every one who wishes to become acquainted with American history*.

Among the various contrivances to facilitate the acquisition of historical knowledge, to which the age in question gave birth, may be mentioned the *Charts of History*, in different forms, which modern ingenuity has framed. These, it is believed, were first brought into Great Britain from the continent of Europe†. Among the first presented to

* See *Historical Collections*, &c. by Ebenezer Hazard, A. M. 2 vols, 4to, 1792 and 1794.

† The first *Chart of History* was published, it is believed, in France, about the year 1760, by the abbé Langlet du Fresnoy. A few years afterwards, a similar work, taken from du Fresnoy's, but much improved, was published in England. Dr. Priestley's *New Chart of History* was the third attempt of the kind; and is, doubtless, superior to all preceding works of a similar nature.

the British public was that invented and delineated by Dr. Priestley, with whose indefatigable labours we meet in almost every department of literature and science. The *Lectures on History*, by the same gentleman, may be considered, on the whole, as one of the most able and useful works produced by its author ; and, indeed, as among the best and most satisfactory views of that subject which the age furnished.

The eighteenth century not only gave birth to many original productions of the historical kind, but also to many valuable translations of the works of ancient historians. This exhibition of the well-constructed and elegant productions of antiquity in modern dress, while it deserves to be mentioned among the literary enterprises which distinguish the age under consideration, may also, at the same time, be pronounced to have exerted a favourable influence on the character of modern historical composition.

It is impossible to dismiss this subject without recollecting how much the researches of historians, in the eighteenth century, have contributed to furnish evidence in favour of Revelation. There never was a period in which *Antiquities* were so extensively and successfully investigated ; and every step of this investigation has served to illustrate and support the Sacred Volume. A few superficial inquirers, in the course of the century, supposed and hoped that they had made discoveries from the stores of antiquity which would be found destructive of the inspired history. But these fond hopes were soon disappointed. When the path of inquiry opened by these sanguine discoverers was

pursued further, and the facts on which they rested their opposition to scripture were more closely examined, they were found to terminate in evidence of a directly contrary kind from that which was at first expected. In this view it may be asserted that some portions of the evidence in favour of Christianity, instead of growing weaker by time, are more convincing and satisfactory to the candid mind at the present hour, than they were, or could have been, fifteen centuries ago.

CHAPTER XVIII.

BIOGRAPHY.

BIOGRAPHY is one of the oldest species of writing. After the restoration of learning this branch of historical composition became particularly popular in Italy and France. From the latter country the same taste passed into Great Britain, where it has been ever since growing. Since the commencement of the eighteenth century, every literary country of Europe has produced a greater number of biographical works than at any former period. There certainly never was an age in which *Memoirs*, *Lives*, collections of *Anecdotes*, &c. respecting the dead, were so numerous, and had such a general circulation, as that which is the subject of this retrospect.

Perhaps few works have contributed more to form a taste for biography, in modern Europe, than the *Dictionary* of M. Bayle, one of the most curious and learned publications of any age. Early in the century under review this work was translated into English, and circulated in Great Britain. Not long afterwards it was republished, with very large additions, which nearly doubled its original extent. The *Biographical History of England*, by Grainger, is entitled to the next place in recounting the British productions of this nature. This was followed by the *Biographia Britannica*, by Dr. Kippis, after the manner of Bayle. Since the

appearance of this large collection of biography several works, of a similar kind, have been laid before the British public. The last publication of this class, and in some respects the best, is that by Drs. Enfield and Aikin, undertaken a short time before the close of the century, and yet unfinished.

Beside these general biographical works, there were others, intended to exhibit the lives of particular classes of eminent persons, of which a number of high character were compiled and circulated during the last age. The *Lives of the British Admirals*, by Dr. Campbell, form an important and interesting collection of this kind. The *American Biography*, by Dr. Belknap*; and several other similar works, are also entitled to respectful notice in enumerating this class of modern writings.

The biographical collections made on the continent of Europe, during the last age, were numerous and extensive, especially in the French and German languages. Among these the *Eloges* of Fontenelle, and of d'Alembert, hold a distinguished place. The *Histoire Littéraire*, of M. Sennebier, has also attracted much attention, and received much praise. Beside these, the *Biographical Dictionary of learned Swedes*, by Gezelius; the *Lives of the Great Men of Germany*, by Klein; and the large biographical works, by Schranck, Schiller,

* The *American Biography*, by the late reverend Dr. Belknap, of Boston, in two vols, 8vo, is a work honourable to the compiler, and highly useful to the student of American history.

and Meiners, of Germany; and by Tenevelli and Fabronius, of Italy, deserve honourable distinction. Of many others, perhaps equally worthy of commendation, the author has too little knowledge to enable him to speak, and especially to delineate their character.

But among all the *Collections of Lives* which the eighteenth century produced, the greatest, if not in bulk, yet in sterling merit, is the *Lives of the English Poets*, by Dr. Samuel Johnson. It is believed that this collection is without a parallel in any language, and certainly unequalled in the history of English literature. The author has been charged, indeed, with discovering strong and even bitter prejudices against some of the best characters which he undertook to review. But admitting this to be true, and in some instances there is perhaps too much foundation for the charge, it may still be asked where the student of polite literature will meet with another collection of biographical sketches at once so original, instructive, and entertaining; with a body of criticism so refined and discriminating; with a work abounding in so many beauties of style, so many just observations on human nature, so many curious and striking remarks on various departments of knowledge and of life, so many comprehensive views, and all so pure in their moral character, as the *Lives of the Poets* display? The stores of literature, it may be confidently pronounced, will furnish him with no such work*.

* While this warm and unreserved praise is bestowed on Dr.

Among the numerous single biographical works which the last age produced it will be impossible to recount all, or even the greater part of those which are worthy of notice. A few of those which are distinguished in the annals of English literature may be slightly mentioned. The *Life of Cicero*, by Dr. Middleton; the *Life of Erasmus*, by Dr. Jortin; the *Life of Swift*, by Mr. Sheridan; the *Life of Metastasio*, by Dr. Burney; the *Life of Petrarch*, by Mrs. Dobson; the *Life of Bacon*, by Mr. Mallet; the *Life of Lorenzo de Medici*, by Mr. Roscoe*; and the *Life of Sir Robert Walpole*, by Mr. Coxe, claim a distinction in this class of modern writings.

The *Life of Dr. Johnson*, by Mr. Boswell, is a curious and singular specimen of biography. Perhaps no character was ever so fully displayed in its alternate exhibitions of greatness and littleness as the illustrious subject of this work. Mr. Boswell, in the compilation, had in view as a model the *Memoirs of Gray*, by Mr. Mason†;

Johnson, and particularly on the great biographical work which is the subject of the above paragraph, it is perhaps proper to inform the reader that my opinions, on a variety of subjects, by no means coincide with those which he frequently avows, and takes pains to inculcate. What these opinions are it would be unsuitable in this place to detail.

* The *Life of Lorenzo de Medici*, by Mr. Roscoe, is worthy of more respectful notice than a simple insertion of its title in a list of biographical works. It indicates an extent of reading, and an elegance of taste, which will do lasting honour to the author.

† Works intended to do honour to learned and ingenious men, by collecting their wise and witty sayings, and giving familiar details of their conduct, were compiled many centuries anterior to

but in the opinion of the best judges the biographer of Johnson, with all his vanity and weakness, greatly exceeds Mr. Mason in the quantity, the variety, and the richness of his materials. In favour of this plan of biographical composition much may be said. Had we memoirs of this ample and minute kind of every great benefactor to the interests of science, literature, and virtue, they would form a very curious, and, in some respects, an invaluable treasure. But it may well be questioned whether dragging into public view, and placing on permanent record, the occasional follies, the temporary mistakes, and every unguarded sally of merriment or passion, into which a great mind may be led, ought to be approved or encouraged. To delineate a character faithfully in its leading features, whether great and honourable, or otherwise, is the duty of every good biographer; but to crowd the pages of an eminently wise and virtuous man's life with the recital of every momentary error and ridiculous foible; to dwell with as much studious care on the trivial follies and prejudices of such a character, as on his sublime powers and excellence; and to record every vain or erroneous saying, or unjustifiable action, which cannot be considered as properly belonging

the eighteenth. The earliest work of this kind now extant is the *Memorabilia* of Xenophon. Wolfius, in his *Causaboniana*, tells us that the first of the *books in ana* was that compiled in honour of the great Scaliger, and called *Scaligerana*, drawn from the papers of Vassant and Vertunian, who took the whole from the mouth of that celebrated scholar. In later times works of this nature have wonderfully multiplied. *Monthly Review*.

to the character, may be safely pronounced to be a plan of biography which, though highly interesting, is neither useful nor wise*.

The manner of M. Bayle has been imitated by many subsequent writers. Of these the most remarkable compiler of individual *Lives*, in the English language, is Mr. Harris, whose biographical works on James I, Charles I, Oliver Cromwell, and Charles II, are generally known, and have been much applauded.

Many *single Lives* of eminent men, on different plans, and of various degrees of merit, appeared on the continent of Europe, in the course of the last age. Of these the *Life of Petrarch*, by the abbé de la Sade; and the *Life of Erasmus*, by M. Burigni, deserve particular notice. They are both biographical works of great merit, and probably have few superiors of their kind in any language. Perhaps it might be added that the plan

* There are two extremes into which biographers are apt to fall. The one is adopting a continued strain of eulogy, and endeavouring either wholly to keep out of view, or ingeniously to varnish over the errors and weaknesses of those whose lives they record. To this fault in biographical writing Mr. Hayley discovers, perhaps, too strong a tendency. If I do not greatly mistake, his *Life of Milton* and his *Life of Cowper* may both be justly impeached on this ground. The other, and a more mischievous, extreme is, recording against departed worth, with studied amplitude, and disgusting minuteness, the momentary mistakes of forgetfulness, the occasional vagaries of levity, and the false opinions, expressed not as the result of sober reflection, but thrown out either in a mirthful hour or in the heat of disputation. Of the latter fault Mr. Boswell's *Life of Johnson* furnishes perhaps the most singular example. The proper course is between these extremes; and of this course it is to be lamented that we have so few models.

on which they are composed is, on the whole, the best plan of biography that has yet been adopted. But these are only two specimens out of a very large list which, were the author sufficiently acquainted with them, might with propriety be mentioned with nearly equal honour. The *Life of M. Turgot*, by M. Condorcet, and the *Life of M. de Voltaire*, by the same author, have also been much celebrated and admired, among a certain class of readers.

At the close of the eighteenth century a species of biographical writing came into vogue, of which, it is believed, no example ever appeared in any preceding age. This is the *Accounts of distinguished Living Characters*, of which Europe, towards the close of the century, produced many specimens. It is not easy to say whether this species of writing is more useful or injurious in its tendency. Like almost every other kind of literary work, however, its effect must depend on the mode in which it is executed. If this be impartial, skilful, and just, it will, doubtless, tend to satisfy curiosity, to encourage rising genius, to correct the foibles of public men, and to extend general knowledge. But it must be acknowledged that almost all the *Accounts of distinguished Living Characters*, with which the republic of letters has abounded within a few years past, have been worse than useless. With some exceptions, they have been written in a continued strain of panegyric, which is rather calculated to flatter its immediate objects, and to mislead others, than to gratify curiosity, or to convey instruction. If these works should be perused a century hence, they will give scarce-

ly any just information concerning the characters of which they treat.

Means were adopted, during the last age, for facilitating the acquisition and retention of biographical knowledge, similar to those which were before mentioned as belonging to the department of history. Biographical *Charts* were first formed on the continent of Europe, where they have appeared in various forms. This contrivance was first introduced into Great Britain by Dr. Priestley.

CHAPTER XIX.

ROMANCES AND NOVELS.

FICTITIOUS narrative, as a medium of instruction or entertainment, has been employed from the earliest ages of which we have any knowledge. Of this kind of composition we have some interesting specimens in the sacred writings. But, like every thing else in the hands of depraved man, it has been unhappily perverted and abused. For many centuries the only form of fictitious history in vogue was that of *Romance**, or descriptions of the characters and manners of former times, mingled with many extravagant and improbable circumstances, and calculated to meet that fondness for the marvellous which so strongly characterises the human mind.

One of the earliest writers of this class of whom we have any distinct account, but by no means one of the most extravagant of them, was Heliodorus, bishop of Tricca, in Thessaly, who lived in the fourth century†. His work was entitled

* The word *Romance* is of Spanish origin, and signifies the Spanish tongue; the greater part of which is derived from the ancient Latin or Roman language. It seems the first Spanish books were fabulous, and being called *Romance* on account of the tongue in which they were written, the same name was afterwards given, by the other nations of Europe, not to Spanish books, which is the proper application of the term, but to a certain class of fabulous writings. See Beattie *On Fable and Romance*.

† Doubts have been entertained whether the work of Heliodo-

Ethiopics, from the scene of the adventures being laid in Ethiopia. And although it was a decent and moral performance, and the inhabitants of Antioch attested that it had reformed the females of their city, yet the author, for writing and refusing to suppress it, was deprived of his bishopric, and deposed from the clerical office. M. Bayle humorously observes, that the marriage of *Theagines* and *Chariclea*, the hero and heroine of this romance, was the most prolific of any that he had read of; having produced all the romances which have been written since that time.

After the time of Heliodorus romances became still more extravagant and absurd in their character. The times and principles of *Chivalry* conferred upon them new features, and gave them a different cast from all the fictitious writings which had before appeared. In these performances the reader was continually presented with the wild absurdities and the heroic exploits of knight-errantry. Giants, dragons, enchanted castles, fairies, ghosts, and all the tribes of imaginary wonders, were constantly passing before him. Probability, and even possibility, were little consulted. To arrest, astonish, and intoxicate the mind, seem to have been their principal objects. But extravagance was not the only fault of the old romantic writings. They

rus were really the first romance. Some suppose that instances of this kind of writing may be traced back as far as the time of Aristotle. Others have thought that, from the *Asiatic Researches*, and other modern publications on oriental literature, there is reason to believe that the native country of *Romance* is the *East*, which seems to have produced many extravagant specimens from time immemorial. See *Curiosities of Literature*, by d'Israeli.

were often grossly immoral in their nature and tendency, abounding in every species of impure and corrupting exhibition of vice. They were also, in general, tediously diffuse, extending to many volumes, and fatiguing the reader with their unnecessary prolixity.

Romance retained its empire in every literary part of Europe until the beginning of the seventeenth century, about which time Miguel de Cervantes, a native of Madrid, published his celebrated satirical romance, entitled *The History of Don Quixote*. This performance was expressly intended to pour ridicule on those masses of absurdity and impurity which had so long maintained an influence over the world. Few works were ever so much read, or so effectually answered their proposed end. Its effect was equal to the most sanguine expectations of the author. It destroyed the reign of chivalry; produced a new modification of public taste; occasioned the death of the old romance; and gave birth to another species of fictitious writing.

This may be called romance divested of its most extravagant and exceptionable characters. In the works of this kind the heroism and the gallantry of the old romance were in a degree retained; but the dragons, the necromancers, and the enchanted castles, were chiefly banished, and a nearer approach made to the descriptions of real life. The *Astræa* of M. d'Urfe, and the *Grand Cyrus*, the *Clelia*, and the *Cleopatra*, of Madame Scudery, are among the most memorable specimens of romance thus pruned and improved. These works, however, had still too much of the improbable and un-

natural to please a just taste; and therefore gave way to a further improvement, which was the introduction of the modern *Novel*.

The word *Novel* is intended to express that kind of fictitious history, which presents natural and probable exhibitions of *modern* manners and characters*. In this species of writing the extravagance, the heroic exploits, the complicated and endless intrigues, and the mock elevation before thought necessary, were abandoned: heroes, instead of being taken from the throne, were sought for in common life: in place of the enchanted castles, the conflicts of giants, and the absurdities of chivalry, the incidents which daily happen in the world, the ordinary scenes of social and domestic intercourse, were introduced: instead of the pompous inflated style formerly admired, and which alone was congenial with the romantic spirit, a more simple and familiar manner was adopted; and, from ten or twelve tedious volumes, the narrative was reduced to two or three, and seldom much exceeded the latter number.

Of modern *Novels* a few appeared in the seven-

* Most writers on this subject employ the word *Romance* to express both those performances which portrayed *ancient* manners, with all the extravagance and folly of chivalry; and those which depict *modern* manners true to nature and life. But since the word *Romance* is considered as invariably expressive of something wild, unreal, and far removed from common practice, ought not some other word to be adopted to designate those fictitious works which profess to instruct or entertain by describing common life and real characters? And is not the word *Novel* well suited to this purpose of discrimination? This word has long been used; but, if I do not mistake, in many instances without that accuracy of application which is desirable.

teenth century ; but the number was so small, and the character of these, for the most part, so low, that even the names of but a small portion of them have reached the present time. The eighteenth century may be peculiarly and emphatically called the *Age of Novels*. The first great work of this kind, in the English language, was *Joseph Andrews*, by Mr. Henry Fielding*, a comic performance, which, though sometimes indelicate, and often exceptionable in its moral tendency, yet displays great wit, humour, learning, taste, and knowledge of mankind†. The next was *Pamela*, by Mr. Samuel Richardson‡. This work introduced, and rendered popular, the mode of writing novels in the form of *Letters*, which has been since adopted by many, both in Great Britain and on the continent of Europe. *Pamela* was succeeded by *Tom Jones*, which, though by no means pure in its moral tendency, is esteemed by the ablest critics as the first performance of the heroi-comic kind that was ever written§. The same author next pro-

* Henry Fielding was born in Somersetshire, in 1707, and died at Lisbon, whither he had gone for his health in 1754. His extravagant and intemperate habits prevented his rising to those civil honours to which his genius would probably have otherwise conducted him.

† Dr. Beattie tells us, that lord Lyttleton, once in conversation with him, after mentioning several particulars of Pope, Swift, and other wits of that time, when he was asked some question relating to the author of *Tom Jones*, began his answer with these words, “ Henry Fielding, I assure you, had more wit, and more humour, than all the persons we have been speaking of put together.”

‡ Samuel Richardson was a native of Derbyshire, where he was born in 1689. He was bred a printer, and carried on that business for many years. He died in 1761.

§ “ Since the days of Homer, says Dr. Beattie, the world

duced his *Amelia*, in which he imitated the epic poets, by beginning his narrative in the middle of the story. This plan was soon followed by Richardson, in his *Clarissa Harlowe*, and *Sir Charles Grandison*, in both which the epistolary form of writing is retained, to which he seems to have been particularly attached.

The earliest productions of Great Britain in this department of writing may be considered as her best. Fielding and Richardson have never been exceeded, and probably not equalled, by any novelists since their day, either in their own or any other country. Each of these authors may be said to have invented a new species of fictitious writing, and to have carried it at once to the highest point of improvement which it has ever reached. Their talents were different, and their works display this difference in a very strong light; but each attained a degree of excellence in his way altogether unrivalled. Fielding is humorous and comic; Richardson more grave and dignified. They both paint with a masterly hand; but Fielding is

has not seen a more artful epic fable than *Tom Jones*. The characters and adventures are wonderfully diversified; yet the circumstances are all so natural, and rise so easily from one another, and cooperate with so much regularity in bringing on, even while they seem to retard, the catastrophe, that the curiosity of the reader is kept always awake, and instead of flagging grows more and more impatient, as the story advances, till at last it becomes downright anxiety. And when we get to the end, and look back on the whole contrivance, we are amazed to find that of so many incidents there should be so few superfluous; that in such variety of fiction there should be so great probability; and that so complex a tale should be so perspicuously conducted, and with perfect unity of design." See the *Dissertation on Fable and Romance*

perhaps more true to nature than his rival. The former succeeds better in describing *manners*; the latter in developing and displaying the *heart*. In plot and contrivance Fielding has no superior; while Richardson interests us less by his incidents than by the beauty of his descriptions, and the excellence of his sentiments*. Fielding is most at home when describing low life, and exhibiting the humorous effusions of coarseness and indelicacy†. Richardson, on the other hand, is more in his element when displaying the purity and sublimity of virtue‡. The most eminent writers of different countries have paid homage to the merits of Richardson as a novelist. His works have been translated into almost every language of Europe, and notwithstanding every dissimilitude of manners, and every disadvantage of translation, they have probably been more generally admired and eulogised than those of any other author in this

* Dr. Johnson, once in conversation with Mr. Thomas Erskine, said, " Sir, if you were to read Richardson for the story your impatience would be so much fretted that you would hang yourself. But you must read him for the sentiment, and consider the story as only giving occasion to the sentiment."

† Richardson used to say, that had he not known who Fielding was, he should have believed him to be an *ostler*.

‡ Richardson was a man of great purity and excellence of character. He was one of the best bred gentlemen of his day—habituated to genteel life—amiable, benevolent, and unaffectedly pious; and no doubt endeavoured, though some have supposed without complete success, to construct all his narratives in such a manner as to give them an unexceptionable moral tendency. Fielding was less pure in his principles and character, and had been more conversant at some periods with low life. In wit, humour, and knowledge of mankind, he has been pronounced inferior to no individual of modern times excepting Shakspeare.

species of composition. Though Fielding has been less popular abroad, owing, perhaps, to the peculiar appropriateness of his pictures of English manners; yet, in several important attributes of fictitious narrative, he certainly transcends every other writer.

These distinguished and standard novelists have had many imitators, particularly in their own country; but none who have risen to the same degree of excellence which they attained. Among the most successful of these was Dr. Smollet. His *Roderic Random* was written in imitation of *Tom Jones*; his *Humphrey Clinker*, the last and best of his works, after the manner of Richardson; and his *History of Sir Launcelot Greaves*, with a view to the manner of Cervantes*. These imitations are by no means without success, and certainly hold, in some respects, a very high place in the list of those fictitious writings which belong to the age under consideration. In exhibiting the peculiarities of professional character Dr. Smollet displays great powers. Perhaps no writer was ever more successful in drawing the character of seamen. Sometimes, indeed, his pictures border on the extravagance of *caricatura*, to which his satirical and cynical disposition strongly inclined him. His propensity to burlesque and broad humour too frequently recurs; and he is often indelicate and licentious to a very shameful degree. These remarks apply, in some measure, to most of his works; but to his *Peregrine Pickle*, and *The Ad-*

* It is obvious, from the definition before given of a *Novel*, that Smollet's *Sir Launcelot Greaves* does not strictly belong to this class; but rather falls under the denomination of *Romance*.

ventures of an Atom, the charge of indelicate description, and immoral tendency, is particularly applicable.

About the beginning of the eighteenth century M. le Sage *, an ingenious French writer, published his *Gil Blas*, which appears to have been among the earliest works of the novel kind, published on the continent of Europe, that rank with the first class, or that are now held in much esteem. This performance was intended to be a picture of Spanish manners, and abounds with a great variety of incident and vivacity of description. It differs from *Tom Jones* in that it partakes less of the *Epic* character, and may, with more propriety, be denominated a piece of "fictitious biography;" but resembles that celebrated work in wit, humour, and knowledge of the world. Soon after the publication of *Gil Blas* the *Marianne* of Marivaux †, on the same general plan, appeared. This work has a place assigned to it among the best novels in the French language. It discovers much acquaintance with human nature, and, under the veil of wit and incident, conveys much useful moral. Several other novels were written by the same author, but none of them are equal to this. They were succeeded by the fictitious writings of Voltaire and Diderot, which were of different kinds,

* Alain Rene le Sage was born in Brittany, in 1667. Having studied the Spanish language and manners with great care, he wrote several works in imitation of Spanish authors. He died in 1747.

† Peter Carlet de Camblain de Marivaux was born at Paris in 1683. His novels and dramas are distinguished by their good moral tendency. He died in 1763.

and possessed different degrees of literary merit; but chiefly designed, like most of the other writings of those far-famed infidels, to discredit religion, both natural and revealed, and to destroy the influence of those institutions which have proved so conducive to human happiness. The novels of Diderot, in particular, abound with every species of licentiousness, and have the most pernicious tendency.

M. Crebillon, the younger, distinguished himself by several works of fiction, executed in a new taste, which, though rendered highly interesting to many readers by their levity, humour, and whimsical digressions, are yet dangerous in their tendency, from a continual display of libertine sentiment. Madame Riccoboni is another distinguished novelist of France, belonging to the period under review. Her *Fanny Butler*, and several other works, have been much read and admired; but have been also severely criticised as containing much indelicacy, and even obscenity, in their narratives. M. Marmontel, of the same country, also presented the public, during the period under consideration, with a new species of fiction, in his *Moral Tales*, which, being less prolix than the common novel, combine instruction and amusement in a very pleasing degree. Many of them, however, it must be owned, are indelicate and corrupting in their tendency, and ought to be considered as especially unfit to be put, as they frequently are, into the hands of children and young persons.

But, among all the French novelists, J. J. Rousseau unquestionably holds the first place as a man

of genius. His *Nouvelle Heloise* is one of the most remarkable productions of the age. Eloquent, tender, and interesting in the highest degree; yet full of inconsistency, of extravagance, of licentious principle, and of voluptuous, seducing description. Poison lurks in every page; but concealed from the view of many readers by the wonderful fascination which is thrown around every object. Of the dangerous tendency of his work, indeed, the author was himself fully sensible, and speaks freely. A circumstance which forms one among the many grounds of imputation against the morality of that singular man*.

The writings of the distinguished novelists above mentioned produced, in every part of Europe, a host of imitators and adventurers in the regions of fiction. To give even a general sketch of the numerous classes of those who have written under the titles of *Memoirs*, *Lives*, *Histories*, *Adventures*, &c. would fill a volume. Since the time of Field-

* The character of Rousseau perhaps exhibits the most singular and humiliating contrasts that were ever displayed in a human being. Exalted genius and groveling folly alternately characterized his mind. At some periods he appeared to be under the influence of the most pure and sublime moral feelings; while, at others, the lowest propensities, and most detestable passions, possessed and governed him. Oftentimes, when speaking of morality and religion, one would imagine that sentiments of the most elevated benevolence and piety were habitual to him; but the tenour of his life, and, indeed, his own *Confessions* demonstrate, that an unnatural compound of vanity, meanness, and contemptible self-love, a suspicious, restless temper, bordering on insanity, and a prostration of every principle and duty to his own aggrandisement and gratification, were the real predominant characteristics of this strange phenomenon in human nature. He was born at Geneva, in the year 1712, and died in 1778.

ing the *Epic* form of novels has been more in vogue than before. *Plot* has become more fashionable, and is considered more essential to the excellence of their structure. During the last thirty years of the century under consideration, the countries most productive of respectable works in this species of composition were Great-Britain, France, and Germany.

Among the later British novelists, Dr. Goldsmith*, Miss Burney (now Madame d'Arblay), Mrs. Radcliffe, Mr. Mackenzie, Mrs. C. Smith, and Dr. Moore, undoubtedly rank highest. The *Vicar of Wakefield* will ever be read with new pleasure, as one of the finest, most natural, and most happily imagined moral pictures that was ever drawn. The author of *Evelina*, *Cecilia*, and *Camilla*, has marked out for herself a manner of writing in some respects new. If the reader do not find in her pages those bold and daring strokes which indicate the hand of a great and original genius; yet, in giving pictures of characters and manners, simple, natural, just, lively, and perfectly moral in their tendency, she has no equal among her contemporaries. The performances of Mrs. Radcliffe will be presently mentioned as belonging to a new and singular class of fictitious writings. The publications of Mr. Mackenzie, which belong to this department of literature, have been much read, and have received high praise. Mrs. Charlotte Smith holds an honourable place among the ingenious and moral novelists of the age.

* Oliver Goldsmith was born at Roscommon in Ireland, in 1729. He was bred a physician. His works are universally known. He died in 1774.

Her *Ethelinde* and *Emmeline* have few equals. Dr. Moore, in describing *English manners*, has acquitted himself with high credit. But the works of the three last writers will probably never be mentioned as forming an era in the history of British novels, like those of Fielding, Richardson, Smollet, Burney, and Radcliffe.

To the class of novels, rather than to any other, belongs that remarkable production, the *Life and Opinions of Tristram Shandy*, by the reverend Lawrence Sterne*. Notwithstanding the often repeated, and well supported, charges brought against this writer, of borrowing without acknowledgment many of his best thoughts from preceding British and French authors†, yet his work is a *unique* in the history of literature. When it first appeared his readers were astonished at the singular farrago of obscurity, whim, indecency, and extravagance which it exhibited. The majority appeared to be at a loss, for a time, what judgment to form of its merits. But some of the friends of the writer, professing to comprehend his meaning, and disposed to place him high in the ranks of wit and humour, gave the signal to admire. The signal was obeyed; and multitudes,

* Lawrence Sterne was born at Clonmell, in Ireland, in 1713. The first two volumes of *Tristram Shandy* were published in 1760. Two years afterwards he travelled into France, for the benefit of his health, which gave rise to his *Sentimental Journey*. He died in 1773.

† It seems to be now well ascertained that Sterne carried to a very great length the practice of filling his pages with plunder from other writers.

to the present day, have continued to mistake his capricious and exceptionable singularities for efforts of a great and original genius. But his genius and writings have certainly been overrated. That he possessed considerable powers, of a certain description, is readily admitted; that the Episodes of *le Fevre* and *Maria* are almost unrivalled, as specimens of the tender and pathetic, must also be granted; and that the man who could conceive and draw the character of *Uncle Toby* must sometimes have had elevated moral feelings, as well as peculiar talents, is equally evident: but those parts of his works which deserve this character bear so small a proportion to the rest, and the great mass of what he has written is either so shamefully obscene, so quaintly obscure, or so foolishly unmeaning, that there are very few works more calculated to corrupt both the taste and the morals. That a man who bore the sacred office should employ his talents in recommending a system of libertinism; that he who could so well delineate the pleasures of benevolence and purity, should so grossly offend against both; and that volumes which abound with such professions of exalted philanthropy, should contain so many pages on which a virtuous mind cannot look but with disgust and indignation, are facts more atrociously and disgracefully criminal than the ordinary language of reprobation is able to reach*.

* "What is called sentimental writing," says, Horace Walpole, "though it be understood to appeal solely to the heart, may be the product of a very bad one. One would imagine that Sterne had been a man of a very tender heart; yet I know, from

The last age is also distinguished by some productions of a singular kind, partaking of the extravagance of the ancient *Romance*, with some of the attributes of the modern *Novel*. The *Castle of Otranto*, by Lord Orford, better known by the name of Horace Walpole, was one of the earliest and most remarkable productions of this kind. To the same class, though in many respects different, belong the works of Mrs. Radcliffe. This lady has formed for herself a department of fiction which may be called new. She has been justly styled “the Shakspeare of romance writers,” and displays a skill altogether unrivalled “in communicating terrific impressions from imaginary causes.” But it is a remarkable peculiarity of her narratives, and greatly augments her title to praise, that, while the scenes which she exhibits abound with wildness and terour, yet they are so softened down, and the mind so much relieved by beautiful description and pathetic incident, that the impression of the whole seldom becomes too strong, and never degenerates into horror; but pleasurable emotion is the predominating result. It ought, likewise, to be mentioned to her honour, that the general tendency of her writings is favourable to virtue*.

indubitable authority, that his mother, who kept a school, having run in debt, on account of an extravagant daughter, would have rotted in jail if the parents of her scholars had not raised a subscription for her. Her son had too much sentiment to have any feeling. A dead ass was more important to him than a living mother.” *Walpoliana*, vol. i.

* *The Mysteries of Udolpho*, the *Romance of the Forest*, and *The Italian*, are considered as the best performances of this lady.

To this mixed class also belongs the *Monk* of Mr. Lewis. While this production evinces talents, it must be considered as highly mischievous in its tendency, and as disgraceful to the character of the writer. In this department of fiction several German writers have made a conspicuous figure, especially the authors of the *Ghost Seer*, *The Victim of Magical Delusion*, and many others of a similar cast. The herd of low and impotent imitators of these works, with which Great-Britain, and other parts of Europe, have abounded for several years past, while they dishonour literature, and corrupt good morals, present a very curious picture of the taste and character of the age which gave them birth.

Among the peculiarities of the century under consideration may be mentioned the practice of conveying certain principles on the subjects of morals, religion, and politics, through the medium of fictitious narrative. Though many works of fiction had been formed, prior to this age, with the view to convey, to a certain extent, moral principles and impressions; yet the plan of attacking particular classes of men or of doctrines through this medium, and of interweaving systems of morality, theology, or philosophy, into the pages of romances or novels, was seldom, if ever, attempted before the eighteenth century.

One of the earliest productions of this kind was the *Adventures of Telemachus*, by archbishop Fénelon*, which appeared at the beginning of the

* This most amiable and excellent of men was born in 1651, and died in 1715. It is generally known that, beside the *Adventures of Telemachus*, he published several valuable works.

century. This work was intended to assert and exemplify those moral and political maxims which the pious and benevolent author had before taught to the dukes of Burgundy and Anjou, when committed to his tuition. The style of this celebrated poem * is generally admired; the fiction is ably conducted; and the moral is pure and sublime. Its extensive circulation and great popularity are well known. About the same time appeared the *Tale of a Tub*, one of the first publications of Dean Swift. The design of this allegorical fable was to expose certain abuses and corruptions in learning and religion, especially the latter; and it has been pronounced in felicity of wit, in force of satire, in copiousness of imagery, and in vivacity of diction, to exceed all the subsequent productions of the author †. About twenty years afterwards the same celebrated writer published his *Gulliver's Travels*, a performance which was, perhaps, more read than any other of the age. This satirical work is levelled at human pride and folly, at the abuses of learning, at the absurdity of theorists and projectors, and, especially, at the expedients and blunders of politicians. In this, as in the former, the fable is, in general, well conducted, the satire is keen, the description admirable, and the style at once easy, graceful, and vigorous. But the work is by no means free from gross faults.

* *Telemachus*, though not written in *verse*, is so *poetical* in its character, that it may with propriety be denominated a *poem*.

† This praise must be received with qualification. The *Tale of a Tub* contains some images and illusions highly indelicate, and even grossly offensive. The author is also chargeable with treating serious things, in this performance, with too much levity.

It discovers a prevailing fondness in the author for filthy allusions, and indecent nauseating descriptions. The *Voyage to the Houyhnhnms*, in particular, is very objectionable. Its satire is that of a misanthrope; its imagery and allusions those of a mind which delighted in filth; and its fiction altogether inconsistent and irrational.

In 1759 was published the *Rasselas* of Dr. Johnson, a philosophical tale, the design of which was to convey, in the oriental manner, useful lessons respecting the vanity of the world, the insufficiency of temporal things to secure human happiness, and the consequent importance of having a due regard to things eternal. This work has been translated into almost all the modern languages of Europe, and was one of the first moral effusions of that mind which afterwards laboured so much, and so well, to "give ardour to virtue, and confidence to truth." About the same time appeared the *Candide* of M. Voltaire, written to refute the system of optimism, and probably with a wish also, to discredit the belief of a superintending Providence. There is a considerable similarity in the plan and conduct of *Rasselas* and *Candide*. But the circumstances under which they were published precluded the suspicion of either having been indebted to the other*.

After the publication of the foregoing works, Mr. Ridley, in his *Tales of the Genii*, endeavoured

* "I have heard Johnson," says Mr. Boswell, "say of these two works, that if they had not been published so closely one after the other, it would have been in vain to deny that the scheme of that which came latest was taken from the other." Boswell's *Life of Johnson*, vol. i, p. 282.

to defend some of the peculiar doctrines of Christianity; while, on the other hand, these doctrines have been covertly attacked, in the *Life and Opinions of John Bunckle**, jun. in the *Memoirs of several Learned Ladies*, in *The Spiritual Quixote*, in *Dialogues of the Philosophers of Ulubraë*, and in several other works of fiction. That system of opinions usually styled the *New Philosophy*† has been exhibited with great zeal, with a view to its defence, in the fictitious writings of Diderot, and many other French novelists; and in those of Holcroft, Godwin, Mary Wollstonecraft, and Mary Hays, of Great Britain. The same delusive and mischievous system has been successfully attacked and exposed in *The Highlander*, by Dr. Bissett; in the *Modern Philosophers*, by Miss Hamilton; in *Vaurien, or Sketches of the Times*, by Mr. D'Israeli; in the *Memoirs of St. Godwin*, in *The Vagabond*, in *Plain Sense*, and in various anonymous publications of the novel kind.

A number of other novelists, both in Great-Britain and on the continent of Europe, deserve to be mentioned, in recounting the conspicuous writers of this class, which belong to the eighteenth century. In Great Britain female novelists have been numerous and respectable. Among

* *The Life and Opinions of John Bunckle, esq.*, and *Memoirs of several Learned Ladies*, were written by Mr. Thomas Amory, an eccentric genius of Great Britain, who was born in 1692, and died in 1789. He was a zealous Socinian.

† By the *New Philosophy* is meant, that system of doctrines concerning the constitution of man, and concerning morals and religion, taught by the author of the *Système de la Nature*, by Helvetius, and Condorcet, and afterwards by several other celebrated writers, both of France and Great Britain.

these Mrs. Brooke, Mrs. Inchbald, Mrs. Sheridan, Mrs. Yearsley, Miss Seward, Miss West, and Miss Williams have attracted most attention, and been the objects of most applause. In France, out of a long list which might be enumerated, the fictitious writings of M. de St. Pierre, Madame Genlis, and M. Florian, are worthy of particular distinction, especially on account of their pure moral tendency. In Germany the writers of romances and novels, during the age under review, were extremely numerous. Of these Wieland is entitled to the first place. The appearance of his *Agathon* is represented as a grand epoch in the history of fictitious writing in that country*. Next to Wieland, Goëthe is respectably known as a novelist, not only in his own country, but also throughout Europe. The name of F. J. Hermes also deserves to be distinguished among the living novel writers of Germany, as do those of Nicolai, Richter, and several others. In a word, in every cultivated part of the European world novel writers have incredibly abounded in modern times; but the author has so little knowledge even of the names of the principal works of this kind, and so much less of their respective merits and demerits, that he cannot undertake to speak of them in detail.

America has given birth to few productions in the department of romance or novel. Indeed, no

* Lessing, a German critic, of great learning and acuteness, pronounced *The History of Agathon* to be one of the finest efforts of genius in the eighteenth century; nay, he called it the *first and only* novel of the Germans, written for thinking men of classical taste.

work of this nature deserving respectful notice had appeared in the United States prior to the year 1798, when Mr. Charles B. Brown, of Philadelphia, published his *Wieland*, which has been since followed by *Ormond*, *Arthur Mercyn*, *Edgar Huntly*, and *Jane Talbot*, from the pen of the same author. Mr. Brown discovers, in these several productions, a vigorous imagination, a creative fancy, strong powers of description, and great command, and, in general, great felicity of language. He has the honour of being the first American who presented his countrymen with a respectable specimen of fictitious history; and is certainly the first who succeeded in gaining much attention to his labours in this branch of literature.

It was before observed that the eighteenth century was the *Age of Novels*. Never was the literary world so deluged with the frivolous effusions of ignorance and vanity, in this form, as within the last thirty years. Every contemptible scribbler has become an adventurer in this boundless field of enterprise. Every votary of singular, and especially of licentious opinions, has thought this a convenient mode of disguising and serving up his errors. The thirst for this species of composition is inconceivably ardent and extensive. All classes of persons in society, from the dignified professional character to the lowest ranks of labouring indigence, seek and devour novels. These ephemeral productions are daily composed, translated, revamped, and reprinted, to indulge the growing demand. What will be the effect and the end of this morbid appetite; whether, like many other diseases, it will work its own cure, or whether it will go on to in-

crease as long as human society shall exist, are questions to the solution of which the friend of human happiness looks forward with deep solicitude.

It has often been made a question, whether romances and novels form a *useful* kind of reading, or the contrary. This question, fifty years ago, was of little moment compared with the importance which it has lately assumed. At that period the number of novels was small, and the popular classes of them sustained, in general, a tolerably pure moral character. Since that time, the case is, unhappily, altered; their number has increased, their character is so changed, and the task of discriminating among them has become so delicate and arduous, that the question above stated must now be regarded as one of the most interesting that can be asked, concerning the literary objects of the day, by the wise and affectionate parent, the faithful guardian, or the mind of general benevolence. It may not be improper, therefore, before taking leave of this singular feature in the history of the eighteenth century, to offer two or three brief remarks on the general tendency of the class of writings under consideration.

That fictitious history, when constructed on proper principles, and executed in a proper manner, may be productive of utility, is a position too plain to be doubted. It is one of the most powerful means of exciting curiosity, of awakening sympathy, and of impressing the understanding and the heart. Such fiction “may do more good to many minds than the solemnities of professed morality, and convey the knowledge of vice and virtue with more efficacy than axioms and definitions.” On

this ground it was, no doubt, that the infinitely wise Author of our religion frequently adopted the form of *parable* for communicating the most important truths to his hearers. And, on the same principle, some of the wisest human teachers have used the vehicle of lively and interesting fiction, known to be such at the time, for insinuating into the mind moral and religious lessons, which, in a different form, might not so readily have gained admittance. It is obvious, then, that to this kind of writing, *as such*, there can be no solid objection. Novels *may* be so written as to promote the cause both of knowledge and virtue. They *may* be constructed in such a manner as will tend to lead the mind insensibly from what is sordid and mean to more worthy pursuits, and to fill it with pure, elevated and liberal sentiments. Nay, it may be further conceded, that, out of the myriads of novels which have been composed, a *few* are, in fact, entitled to this character, and have a tendency to produce these effects.

But it is evident, that a kind of writing, which, when wisely and ingeniously executed, may be conducive to the best purposes, may also, in the hands of the unskilful or the wicked, produce the worst effects. If an artfully conducted fiction be so well fitted to interest the curiosity, to awaken sympathy, and to impress the mind, then it follows that if this fiction be enlisted on the side of corrupt principle, or licentious practice, it must do incalculable mischief. The question before us, therefore, must be solved by examining the influence of novels, not as they *might* and *ought* to be composed, but as they are found in *fact* to be

written. We are not to assume for our standard the utility which *would* be derived from this species of writing, were it confined to the enlightened and virtuous; but the character and tendency of that heterogeneous mass which is daily accumulating from every quarter of the literary world.

What then is the general character of modern novels? The most favourable estimate that can be made stands thus:—Were the whole number which the age produced divided into *a thousand* parts, it is probable that *five hundred* of these parts would be found so contemptibly frivolous, as to render the perusal of them a very criminal waste of time; and though entirely destitute of character, yet so far as they are the objects of attention at all, they can do nothing but mischief. To devote the time and attention to works of this kind, has a tendency to dissipate the mind; to beget a dislike to more solid and instructive reading, and especially to real history; and, in general, to excite a greater fondness for the productions of imagination and fancy, than for the sober reasoning, and the practical investigations of wisdom.

Of the remaining *five hundred* parts, *four hundred and ninety-nine* may be considered as positively seductive and corrupting in their tendency. They make virtue to appear contemptible, and vice attractive, honourable, and triumphant. Folly and crime have palliative and even commendatory names bestowed upon them; the omnipotence of *love* over all obligations and all duties is continually maintained; and the extravagance of sinful passion represented as the effect of amiable sensibility. Surely these representations can have no other ten-

dency than to mislead, corrupt and destroy those who habitually peruse them, and especially those who give them a favourable reception.

But this is not the worst of the evil. A portion of this latter class of novels may be charged with being seductive and immoral on a more refined plan. They are systematic, and, in some instances, ingenious and plausible apologists for the most atrocious crimes. In many modern productions of this kind the intelligent reader will recognize the following process of representation. Corrupt opinions are put into the mouth of some favourite hero, the splendour of whose character, in other respects, is made to embellish the principles which he holds, and the force of whose eloquence is used to recommend the most unreasonable dogmas. When this hero commits a crime, and when by this crime, according to the fixed law of the Divine government, he is involved in serious difficulty, if not lasting misery, the fashionable novelist endeavours to throw the blame on the religious and moral institutions of the world, as narrow, illiberal and unjust. When a woman has surrendered her chastity, and prostituted herself to a vile seducer; and when she suffers in her reputation and her comfort by such base conduct, all this is ascribed to the "wretched state of civilization," to the "deplorable condition of society!" Every opportunity is taken to attack some principle of morality under the title of a "prejudice;" to ridicule the duties of domestic life, as flowing from "contracted" and "slavish" views; to decry the sober pursuits of upright industry as "dull" and "spiritless;" and, in a word, to frame an apology for suicide, adul-

tery, prostitution, and the indulgence of every propensity for which a corrupt heart can plead an inclination.

It only remains to speak of the *one thousandth* part not included in the classes already characterized. Of the greater portion of these the most favourable account that can be given is, that they are *innocent* and *amusing* compositions. But even with regard to a considerable number which have been commonly placed among the good and useful novels, a correct judge would scarcely be willing to pronounce them *innocent* without some qualification. After all these deductions, how small is the number of those which can be said to merit a perusal, or which can be considered as tending, in any tolerable degree, to enlighten the mind, or to promote the interests of virtue and happiness! So small, indeed, that out of the numerous volumes which a simple catalogue of the novels produced in the eighteenth century would fill, a single page would embrace all that could be with propriety recommended to the attention of the youthful mind.

Many novels which contain no licentious principles or indelicate descriptions, are still defective, inasmuch as they are not pictures of nature. When this is the case, though they be not chargeable with making a direct attack on the fortress of virtue, yet they are only fitted to mislead. To fill the mind with unreal and delusive pictures of life, is, in the end, to beguile it from sober duty, and to cheat it of substantial enjoyment. Were all the mischief presented to our view which has been done to thoughtless, unsuspecting minds, by ficti-

tious writings of this character, it would be found to form a mass of crime and misery too great for the ordinary powers of calculation.

But it is not enough that the fiction be true to nature. It may in no case depart from the probable and natural; every line may be drawn with a strict regard to the original character designed to be represented; the most transient beholder may pronounce the likeness to be perfect; and yet the view may be fitted to corrupt the mind of every one who looks upon it. The truth is, there are many characters which ought never to be drawn in fiction, as there are many which ought never to be contemplated in fact. And he who regards the welfare of a child will be as anxious to withhold from him the view of many natural and lively descriptions of vice, as to keep him from the company of those who are really vicious. "Many writers," says a celebrated critic and moralist*, "for the sake, as they tell us, of following *nature*, so mingle good and bad qualities in their principal personages, that they are both equally conspicuous; and as we accompany them through their adventures with delight, and are led by degrees to interest ourselves in their favour, we lose the abhorrence of their faults because they do not hinder our pleasure, or perhaps regard them with kindness for being united with so much merit. There have been men, indeed, splendidly wicked, whose endowments threw a brightness on their crimes, and whom scarce any villany made perfectly detestable, because they never could be wholly divested

* Dr. Johnson. *Rambler*, vol. 1.

of their excellencies ; but such have been, in all ages, the great corruptors of the world ; and their resemblance ought no more to be preserved than the art of murdering without pain *."

Estimating novels, then, not as they *might* be made, but as they *are* in fact, it may be asserted, that there is no species of reading which, promiscuously pursued, has a more direct tendency to discourage the acquisition of solid learning, to fill the mind with vain, unnatural, and delusive ideas, and to deprave the moral taste †. It would, perhaps, be difficult to assign any single cause which has contributed so much to produce that lightness and frivolity which so remarkably characterize the literary taste of the eighteenth century, as the un-

* On this principle it is plain that such a character as *Tom Jones* ought never to have been exhibited by a friend to virtue. And though the characters drawn by Richardson are by no means so liable to censure on this ground as several of those by Fielding, yet it may be doubted whether the *Lovelace* of the former, taken in all its parts, be a character calculated to make a virtuous impression, especially on the youthful mind.

† The celebrated Dr. Goldsmith, in writing to his brother, respecting the education of a son, expresses himself in the following strong terms, which are the more remarkable, as he had himself written a novel:—"Above all things, never let your son touch a romance or novel; these paint beauty in colours more charming than nature; and describe happiness that man never tastes. How delusive, how destructive are those pictures of consummate bliss! They teach the youthful mind to sigh after beauty and happiness which never existed; to despise the little good which fortune has mixed in our cup, by expecting more than she ever gave; and, in general, take the word of a man who has seen the world, and has studied human nature more by experience than precept; take my word for it I say, that such books teach us very little of the world." *Life of Goldsmith, prefixed to his Miscellaneous Works.*

exampled multiplication and the astonishing popularity of this class of writings.

The friend of novels will perhaps agree, that the *promiscuous* perusal of them is dangerous, and will plead for a discreet selection. But who is to make this selection? On whom shall devolve the perplexing task of separating the wheat from the chaff, the food from the poison? If amidst the mighty mass, those which are tolerably pure, and especially those which are calculated to be useful, be only now and then to be found, as a few scattered pearls in the ocean, shall the delicate and arduous task of making the choice be committed to minds “unfurnished with ideas, and therefore easily susceptible of impressions; not fixed by principles, and therefore easily following the current of fancy; not informed by experience, and consequently open to every false suggestion, and partial account?” The imminent danger, and almost certain mischief, arising from a choice made by such minds cannot be contemplated by those who feel an interest in human happiness, without deep anxiety and pain. And to expect a wise choice to be made by parents and instructors, is to suppose, what was never the case in any state of society, that they are generally enlightened and virtuous.

On the whole, the answer of a wise preceptor to the main question respecting the utility of novels, would probably be something like this:—That, wholly to condemn them, and rigidly to forbid the perusal of *any*, in the present state of the literary world, would be an indiscreet and dangerous extreme; that reading a *very few*, therefore, of the

best is not unadvisable *; that in selecting these, however, great vigilance and caution should be exercised by those to whom the delicate and difficult task is committed; that the perusal of a *large number*, even of the *better sort*, has a tendency too much to engross the mind, to fill it with artificial views, and to diminish the taste for more solid reading; but that a young person habitually and indiscriminately devoted to novels is in a fair way to dissipate his mind, to deprave his taste, and to bring on himself intellectual and moral ruin.

* The author has no hesitation in saying, that, if it were *possible*, he would *wholly* prohibit the reading of novels. Not because there are none worthy of being perused; but because the hope that, out of the polluted and mischievous mass continually presented to the youthful mind, a tolerably wise choice will, in many instances, be made, can scarcely be thought a reasonable hope. As, however, these fictitious productions are strewed around us in such profusion, and will more or less excite the curiosity of youth, the plan of *total exclusion* is seldom practicable. In this case it is, perhaps, the wisest course to endeavour to regulate the curiosity which cannot be prevented, and to exercise the utmost vigilance in making a proper choice for its gratification, and in restraining this gratification within *small bounds*. For it may, with confidence, be pronounced, that NO ONE WAS EVER AN EXTENSIVE AND ESPECIALLY AN HABITUAL READER OF NOVELS, EVEN SUPPOSING THEM ALL TO BE WELL SELECTED, WITHOUT SUFFERING BOTH INTELLECTUAL AND MORAL INJURY, AND OF COURSE INCURRING A DIMINUTION OF HAPPINESS.

ADDITIONAL NOTES.

Note (FF), page 24.—THERE seems to be no science in which America has made more progress than that of medicine ; and none in which she holds a more complete independence of the doctrines and authorities of the European world. It is indeed true, that the physicians of this country were originally indebted to their preceptors in Europe for the elements of most of that knowledge which they have since so successfully laboured to simplify, improve, and extend. It was natural to suppose, as so many of our most distinguished members of this profession had received their education in Europe, that they would remain fixed in the trammels of early impressions, and refuse to listen even to the evidence of facts, when found not to coincide with the principles they had deeply imbibed. Much of this blind reliance on authority has been observed ; but it is equally true that America may boast of much free inquiry, and of much bold and successful innovation. This hemisphere is the theatre on which the prejudices and errors of the European school, in a great variety of instances, have been refuted and abandoned, and on which new principles in medicine have been proposed, ascertained, and completely established. In support of this assertion it would be easy to adduce, not only the facts concerning American physicians who had been educated in Europe and returned to their native country, but those likewise of European physicians going in various capacities to reside in the West Indies. Are diseases on this side the globe more gigantic in stature, more marked and incapable of disguise in

their features than in the land of our ancestors—or to what else are we to attribute this effect?

It would exceed the limits of this note, and appear unbecoming in the author, to enter into any discussion of the conflicting opinions of American and European physicians. Nothing more, therefore, than a rapid glance at the subject shall be attempted.

Medical science in America claims the merit of improvements and discoveries on the following subjects. A more simple and correct doctrine concerning the radical and universal relations of diseases; a more rational and practical estimate of nosology, the importance of which seems to have been greatly overrated in Europe; more just, accurate, and consistent opinions concerning the origin and causes of epidemic and pestilential diseases, according to which the notions of their importation and exportation from one country to another are rejected, and the doctrine of their production from a vitiated state of the atmosphere in the situations where they are found to prevail, is satisfactorily established; more correct principles on the subject of quarantine, which might diminish the burdens and restrictions of commerce, and render the intercourse of nations more hospitable and humane; and a more extensive acquaintance with the medicinal virtues and uses of many articles of the vegetable kingdom.

Among many particular diseases and remedies, the management of which has been improved in the United States, the following may be selected with great confidence. A more simple and efficacious treatment of pestilential diseases; a more correct theory and practice in dropsy, particularly in that of the brain; a more discriminating, decisive, and successful, employment of blood-letting in fevers, and more just indications, founded upon the appearances of the blood after being drawn; and a more extensive and efficacious use of mercury in a variety of diseases.

In effecting these and many other improvements the physicians of the United States have laboured with a laudable and enlightened diligence. In the first rank of those who have

thus honourably employed their talents, it is proper to place the name of Dr. Rush, whose devotedness to science, and whose ardour, eloquence, and perseverance, in the dissemination of it, will cause the period of his public instruction to be always hereafter considered as an interesting epoch in the history of medicine in this country. In truth it may be asserted that this gentleman, for a long period after the commencement of his course of public instruction, did more in his capacity of teacher than all the other physicians in the United States collectively, to diffuse a taste for medical inquiries, and to excite a spirit of observation, and of laudable ambition, among the students of medicine in our country. The inquiries of Dr. Mitchill, with respect to pestilential diseases, the subject of quarantine, &c., are likewise deeply connected with that mass of investigations in this country which commenced in throwing off the yoke of European authority, and asserting the rights of free and independent judgment. Nor is less praise due to Dr. Barton for his enlightened efforts to enrich the *Materia Medica* of the United States, by his researches into the virtues of their vegetable treasures.—Many other names might also be inserted in this place, were not the task of making a selection difficult and invidious.

Note (GG), page 83.—When it is asserted that the last age is remarkable for a great increase in the *dimensions* of ships, it is meant that this may be considered as a *general* truth. The vessels which, at the beginning of the century, were sent on long voyages of discovery, or other important enterprises, were, in many instances, as small as those which are now considered fit only for coasters.

“ The trading vessels of the ancients were in general much inferior in size to those of the moderns. Cicero mentions a number of ships of burden, none of which was below 2000 *amphoræ* (*quarum minor nulla erat duàm millium amphorûm*), i. e. about 56 tons, which he seems to have thought a large ship. (*Cic. Fam. xii, 15.*) There were, however, some ships of enormous bulk. One built by Ptolemy is said to have been

280 cubits, that is, 420 feet long, and another 300 feet: the tonnage of the former being 7182, and of the latter 3197. (*Athenæus*.) The ship which brought from Egypt the great obelisk that stood in the *Circus* of the Vatican in the time of Caligula, beside the obelisk itself, had 120,000 *modii* of *lentes*, or *lentiles*, a kind of pulse, for ballast, amounting to about 1138 tons. *Plin.* xvi. 40. § 76."—See Adams's *Antiquities*.

Note (HH), page 165.—The disposition to undervalue and neglect metaphysical science is one of the most disgraceful characteristics of the last age. The influence of this disposition is more extensive and more mischievous than is commonly imagined. It is unfavourable to strength and accuracy of reasoning; has a very pernicious effect on morals and religion, and consequently on private and public happiness. When a man declares that he has no taste for metaphysical reading and inquiries, he pronounces a satire on his own mind; but when he ridicules those who have such a taste, he attempts to trample on the dignity and the happiness of his species. Such persons surely forget that some of the most important questions that interest us as men, as scholars, and as Christians, can only receive a correct solution by means of metaphysical principles.

Note (II), page 183.—"One of the first writers who introduced the phrase *Common Sense* into the technical or appropriate language of logic was father Buffier, in a book entitled *Traité des Premières Vérités*. It has since been adopted by several authors of note in Great Britain, particularly by Dr. Reid, Dr. Oswald, and Dr. Beattie; by all of whom, however, I am afraid it must be confessed, it has been employed without a due attention to precision. The last of these writers uses it to denote that power by which the mind perceives the truth of any intuitive proposition, whether it be an axiom of abstract science, or a statement of some fact resting on the immediate information of consciousness, of perception, or of memory; or one of those fundamental laws of belief which are implied in the application of our faculties to the ordinary business of life.

The same extensive use of the word may, I believe, be found in the other authors just mentioned. But no authority can justify such a laxity in the employment of language in philosophical discussions: for if mathematical axioms be (as they manifestly and indisputably are) a class of propositions essentially distinct from the other kinds of intuitive truths now described, why refer them all indiscriminately to the same principle in our constitution? If this phrase, therefore, be at all retained, precision requires that it should be employed in a more limited acceptation; and accordingly, in the works under our consideration, it is appropriated most frequently, though by no means uniformly, to that class of intuitive truths which I have already called *fundamental laws of belief*. When thus restricted it conveys a notion unambiguous at least, and definite; and, consequently, the question about its propriety and impropriety turns entirely on the coincidence of this definition with the meaning of the word as employed in ordinary discourse."

"I have said that the question about the propriety of the phrase *Common Sense*, as employed by philosophers, must be decided by an appeal to general practice: for although it be allowable, and even necessary, for a philosopher to limit the acceptation of words which are employed vaguely in common discourse, it is always dangerous to give to a word a scientific meaning essentially different from that in which it is usually understood. It has, at least, the effect of misleading those who do not enter deeply into the subject; and of giving a paradoxical appearance to doctrines which, if expressed in more unexceptionable terms, would be readily admitted."

"It appears to me that this has actually happened in the present instance. The phrase *Common Sense*, as it is generally understood, is nearly synonymous with *Mother-wit*; denoting that degree of sagacity (depending partly on original capacity, and partly on personal experience and observation) which qualifies an individual for those simple and essential occupations which all men are called on to exercise habitually by their common nature. In this acceptation it is opposed to those

mental acquirements which are derived from a regular education, and from the study of books; and refers not to the speculative convictions of the understanding, but to that prudence and discretion which are the foundation of successful conduct. Such is the idea which Pope annexes to the word when, speaking of good sense, (which means only a more than ordinary share of common sense) he calls it

‘ The gift of Heaven,
And though no science, fairly worth the seven.’

“ To speak, accordingly, of appealing from the conclusions of philosophy to common sense, had the appearance, to title-page readers, of appealing from the verdict of the learned to the voice of the multitude; or of attempting to silence free discussion by a reference to some arbitrary and undefinable standard, distinct from any of the intellectual powers hitherto enumerated by logicians. Whatever countenance may be supposed to have been given by some writers to such an interpretation of this doctrine, I may venture to assert that none is afforded by the works of Dr. Reid. The standard to which he appeals is neither the creed of a particular sect, nor the inward light of enthusiastic presumption; but that constitution of human nature without which all the business of the world would immediately cease; and the substance of his argument amounts merely to this—that those essential laws of belief to which sceptics have objected, when considered in connection with our scientific reasonings, are implied in every step we take as active beings; and, if called in question by any man in his practical concerns, would expose him universally to the charge of insanity.”—Stewart’s *Life of Reid*, p. 118—120.

Note (KK), page 190.—It is asserted in the abovementioned page that Dr. Hartley derived his doctrine of *vibrations* from Newton. The truth is, that Dr. William Briggs, who instructed Newton in anatomy, appears to have been the first who taught the doctrine of nervous vibrations. This he did in his *Nova Visionis Theoria*, published in 1682. Newton, tak-

ing the idea from him, suggests it, not as a fixed opinion, but as a modest query, (see 23d query, subjoined to his Optics), whether "vision is effected chiefly by the vibrations of an elastic medium, excited in the bottom of the eye by the rays of light, and propagated along the solid, pellucid, and uniform, capillaments of the optic nerve? And whether hearing is effected by the vibrations of the same or of some other medium, excited by the tremor of the air in the auditory nerves, and propagated along the solid, pellucid, and uniform capillaments of those nerves?" And so with regard to the other senses. What was thus suggested by Newton became a fundamental principle in Hartley's system, and has been considered by him and his followers as placed on the high ground of *demonstration*.

Note (LL), page 206.—An ingenious and learned friend, on reading the assertion, in the abovementioned page, that "President Edwards appears to have been the first Calvinist who avowed his belief so fully and thoroughly in the doctrine of moral necessity as his book indicates," made the following remarks:

"You have mistaken the fact with reference to president Edwards. His great mind was, indeed, nobly exercised in the defence of truth. He appears an original in the invention of arguments against his adversaries, but not in discovering the truths which he states respecting the liberty of the will. The connection between motives and volitions, the liberty of choice in man, and the necessity of the futurition of human voluntary actions; in short, every part of moral necessity consistent with free agency, was embraced and understood before his day, although not so successfully demonstrated as by him. You should have taken notice of his son, Jonathan Edwards, D.D. late president of Union college, in Schenectady. He was an able metaphysician. Few works in the English language discover more penetration than his book on the *Liberty of the Will*."

On the reputation of these two American divines the character of our country, with respect to metaphysical science, may honourably rest. The father, considering the circumstances in which he was educated and spent his life, was truly a prodigy of talents. For acuteness and extent of comprehension, and fervour of piety, he has had but few equals belonging to any age. The son very much resembled his father in talents, in piety, and in the circumstances of his life.

Note (MM), page 209.—The same friend who was mentioned in the preceding note communicated the following remarks on the subject of *Materialism*, which I cannot deny myself the pleasure of inserting at length in this place.

“ Numerous are the advocates of the material system. In order to enforce our belief in its doctrines, conjecture and ingenuity have done their best. And, after all, great must be the faith, or rather the credulity, of those who can believe it.

“ If we are to account for all the varieties of thought upon mechanical principles, it will be necessary to consider the subject in the light of known mechanical laws. - Whether we adopt the hypothesis that the nerves are like fiddle-strings, or that they are full of a medullary substance capable of vibrations, the fundamental principle of materialism is one. ‘ The vibrations of matter produce thought,’—On this theory it may be observed—

“ 1. It never has been proved that there *are* such vibrations. It is a mere hypothesis. It may serve for speculation; but to build a system on such a basis is credulity, not philosophy.

“ 2. Granting, for argument’s sake, the existence of vibrations, there is no necessary connection between vibration and thought. If there be not, there must be another hypothesis introduced, *viz.* ‘ There *may* be a connection between vibrations and thought.’ Upon this hypothesis I should be glad to see Dr. Priestley or Dr. Darwin give us a poem or dissertation upon the thoughts of the *Harpsichord* while the strings are

vibrating at the touch of a lady's finger; or upon the grave speculations of a mill-pond while the boys at play are throwing stones into it.

“ 3. Suppose I again grant, for further argument's sake, this hypothesis to the materialists. It will be necessary to show that in vibrations, considered abstractedly, there is such a variety in kind and degree as corresponds exactly with all the varieties of thought.

“ There are at least *ten* distinct intellectual powers. Not one of these can be accounted for by one or more of the others. There are, 1. The powers which we have by means of our five senses. 2. Attention. 3. Memory. 4. Abstraction. 5. Judgment. 6. Reasoning. 7. Taste. 8. Powers of moral perception. 9. Consciousness. 10. Conception. Each of these is distinct, and a distinct source of ideas. The active powers, moreover, are numerous; and the mind, so constituted, is capable of a vast variety of thoughts, differing in kind and degree. Do vibrations afford an equal variety? No: it is not possible that there should be any more than two kinds of vibrations in a uniform elastic medium. 1. They may be quick or slow. 2. They may be strong or weak. These kinds admit of various degrees; and this is all the variety of which the laws of matter (however finely organized the machine) will admit. Now, he must certainly be ignorant of his own mental operations, or of the laws of motion in matter, who can be persuaded of an exact correspondence of the one to the other. Certainly credulity never appeared more conspicuous in the devotees of Popish superstition than it does in the advocates and believers of the material system!

“ Shall vibrations in an elastic medium be supposed to account for all the original powers, intellectual and active? Put all these out of the question except one class, *viz. the powers we have by our external senses*, and even then there is a manifest disparity. Had we no sensations but those of *hearing*, this theory would not be so contemptible. There is a correspondence between vibrations and sound. These sensations will themselves appropriate all the varieties of vibrations; and even

then it will be necessary to conceive of some sentient being, capable of those sensations, distinct from all the vibrations which produce them.

“Hearing, however, is but one of our senses; and its sensations are the most simple: they differ only in degree. By each of the other four we have a variety of sensations which differ specifically as well as in degree. Who can name the varieties of colour which we perceive by the eye? Tastes and smells are innumerable. They differ specifically, and each is capable of all degrees of strength and weakness. But how shall we find in vibrations a variety corresponding to the immense variety of sensations which we have from sight, hearing, taste, smell, and touch? And how shall they account for all the ideas which we have from all the other sources and powers of thought, upon mechanical principles? Common sense, reason, and philosophy, are in a lamentable condition when such theories gain ground among men. He who would be a materialist in the nineteenth century, would have been a believer in the doctrine of transubstantiation in the twelfth.”

Note (NN), page 211.—As this theory makes an important part of a medical work which is highly popular, and has an extensive circulation in the United States; and as there is reason to suppose that many superficial thinkers have been seduced into the adoption of its principles by the plausible aspect which it wears, the following remarks are respectfully submitted to the reader, not as containing a full refutation of the *Darwinian* doctrines, but as suggesting some hints worthy of the consideration of those who are disposed to embrace them.

1. Dr. Darwin sets out with a singular inconsistency. He declares that, by the *Spirit of Animation*, or *Sensorial Power*, he means only that animal life which mankind possess in common with brutes, and, in some degree, even with vegetables; and that he leaves the consideration of the immortal part of us, which is the object of religion, to those who treat of revelation. Yet he afterwards proceeds, in the same work, to show how the sensorial power produces ideas of memory, imagination, abstraction, &c., which have always been considered as belonging

to the rational and immortal mind of man, by all who believe that such mind exists. Does Dr. Darwin mean to express an opinion that man possesses the noble powers of reasoning, judgment, imagination, abstraction, memory, reflection, &c., in common with brutes? or does he suppose that the soul, the immortal part, possesses intellectual powers of a different kind?

2. It may be observed that this theory embraces a general doctrine, which is gratuitously assumed, and is altogether unphilosophical. Its object is to reduce all the energies of intellectual and animal life to the operation of an invisible fluid secreted by the brain, and existing in every part of the body. But does this fluid exist? It is surely unphilosophical to take for granted the existence of a substance, and then to proceed, on the supposition, to a long train of inferences, the validity of which must all rest on the first assumption. Besides, this supposed fluid gives no real aid to the inquirer when admitted. It explains nothing. The whole business of *causation* is as much in the dark, after all this parade of developement, as ever. Unwilling to confess himself ignorant of any thing, Dr. Darwin endeavours to amuse his own mind, and the minds of his readers, with *contractions*, *fibrous motions*, *appetencies*, and other apologies for ignorance. But these words convey no distinct ideas to the mind; they enable us to make no real progress in the investigation of truth. In this writer's philosophical works the poet too often appears with all his parade of fictions. Suppositions are assumed for facts; conjecture is brought in aid of hypothesis; and from these materials, with all the formality of legitimate deduction, a system is formed. But when the good old rule of philosophising—"The causes must be both true and sufficient to explain the phenomena"—is rigidly applied, many of his most important postulates are found either utterly inadmissible, or to possess, if admitted, only a fictitious value. The *sensorial power* of this ingenious theorist, as applied to explain the phenomena of mind, too much resembles the *occult qualities*, the *phantasms* and the *essential forms* of the schoolmen, to be viewed respectfully by a practical philosopher.

3. Several of the doctrines which enter into this theory are not consistent with themselves. Dr. Darwin sometimes uses the word *idea* to signify the organic affection, and sometimes the mental affection ; or, to use his own language, it sometimes denotes the *fibrous motion*, and at others the *sensorial motion* ; that is, it signifies both the *cause* and the *effect*. This inaccurate use of an important metaphysical word is the source of much loose, perplexed, and inconsistent reasoning.

Again ; the spirit of animation is said to have the power of producing certain motions in the animal fibre. But if the power of producing fibrous contractions be inherent in this spirit (and such self-operating power is certainly sometimes ascribed by Dr. Darwin to the spirit of animation, especially in cases of memory, &c.), then that portion of it which is in immediate contact with the fibre must induce contraction before the application of stimuli, unless the power be counteracted. But, in this case, nothing is supposed to counteract its action ; and as the effect is not produced, where is the inherent power of this subtle fluid ? If we say that the sensorium does not essentially possess the power, but excites motions of the fibres merely by its own motion, we subject the phenomena of life and mind to the principles of mechanics ; but it is admitted by Dr. Darwin that the effects bear no mechanical proportion to their causes.

Further, Dr. Darwin contends that fibrous motions constitute our notions or ideas of the qualities of external things. To illustrate this an argument is drawn from the luminous appearance in the eye, when it is struck in the dark, or when a corner of the ball is pressed. This effect, he supposes, is occasioned not by the presence of light, but by mere pressure ; a supposition which, if admitted, must set aside his theory of ideas. The sensorial power in the eye has the same susceptibilities as that in the nerves of touch, and the fibres of both organs are equally contractile. They differ only in the *means* of irritation ; the structure of the external organ of the one being peculiarly adapted to the transmission of light. But if pressure can excite the sensation of a flash, this stimulus is not, like that of

light, confined to the eye. It must excite similar fibrous motions of the *rete mucosum*, and the sense of touch will thus become a medium of vision. But this, though an unavoidable inference from Dr. Darwin's principles, is contrary to his conclusions.

Another gross inconsistency appears in the account which this theorist presents of the qualities belonging to sensorial power. To say that a substance can assume the property of solidity, and lay it aside; that it can occupy space, and cease to occupy it at pleasure, is to say that it can, at pleasure exist, and cease to exist. The sensorial power is constantly represented as a material substance, at some times solid and impenetrable, and at other times not so. Now, if solidity belong to matter at all, it must be essential to it under every variation of form, and can only cease to exist in the destruction of the substance. But this is not the whole of the difficulty: Dr. Darwin tells us (vol. ii, *Additional Notes*), that the doctrine of immaterial ideas is a "fanciful hypothesis, like the stories of ghosts and apparitions, which have so long amused the credulous, without any foundation in nature;" yet the sensorial power is sometimes disrobed of its materiality. Is this consistent with the other doctrines concerning the spirit of animation which this writer teaches? When the sensorial power is led to assume spirituality, it is incapable of being acted upon by matter, as he expressly declares; consequently it ceases to exist, for it is no longer capable of acting or of being acted upon; and, of course, in all such cases life is suspended or destroyed. We have not, however, yet exposed, in its full extent, the inconsistency of Dr. Darwin on this subject. He observes that, although the sensorial power may sometimes disrobe itself of solidity; yet, whenever it communicates motion to the fibres, or is itself excited by their motion, it must necessarily be solid or impenetrable; because, as the muscular fibres approach each other in the contraction of a muscle, and as nothing can act where it does not exist, the approach of the particles can be explained only on the supposition of an intermediate agent. But if sensorial power, during its exertion, be solid and impenetrable,

like the fibres on which it acts, the supposition of its existence will not render at all more explicable the phenomena of muscular contraction. For the sensorial power between the particles of a fibre is in contact with those particles, or it is not. If it be, then the particles of the fibre cannot approximate, because there is no vacant space, and the sensorial power is not penetrable. The whole fibre, with its sensorial power, forms one connected substance, and is thence incapable of motion. But if the sensorial power be not in contact with the particles of the fibre on which it acts, it will be necessary to suppose the existence of another intermediate agent (a *subtle fluid* no doubt), as we are repeatedly assured that nothing can act where it does not exist.

The doctrine of *association* is an important part of Dr. Darwin's theory; but upon the principles of this theory association is impossible. Association is a particular quality or state of sensorial power; but this power, or, which is the same thing, the spirit of animation, is in a perpetual state of flux. It is constantly secreted and expended, being too subtle to remain any length of time in the system. The particles of this spirit, then, cannot form any habitual connections or associations with each other, because, in the very act of association, they are expended and destroyed. According to any laws of matter with which we are acquainted, they can only be connected by means of repeated simultaneous action; but in their first action, according to this theorist, they expire, and their places are supplied by new particles, which, like them, can only act once and fly off. The fibres, indeed, remain amidst this continual flux of the vital fluid; but without it they possess no other quality than those of inanimate matter.

Once more; Dr. Darwin allows that stimuli sometimes exist in contact with sensorial power, without producing corresponding effects. He accounts for this fact by supposing that, from the inconvenience of obeying certain irritations, we learn to suffer the stimulating material to accumulate till it disagreeably affects us, and that the subsequent action is then in consequence of this disagreeable sensation. But this is in-

consistent with his other doctrines. Sensations cannot in this manner produce contractions, if we adhere to his theory of the origin of ideas. What does he mean by saying, *we suffer the stimulating material to accumulate*? The sensorial power exists in contact with the requisite stimulus: is there a third principle, a *presiding mind*, in his creed, which regulates their action?

These are a few of the inconsistencies with which this celebrated work abounds. In no respect, perhaps, does the author display more loose thinking, and more glaring inconsistency, than in the manner in which he speaks of *Sensorial Power*. Though he expressly represents the faculties of the sensorium as different states of the same vital fluid, or spirit, and though this doctrine forms the groundwork of his reasoning; yet he sometimes speaks as if these faculties were different substances. Sensorial power is, with him, at one time solid and impenetrable, and at another spiritual and penetrable. And though he expressly ridicules the idea of an immaterial sentient principle in the mind, yet he frequently speaks in a manner which is altogether unintelligible without supposing some such principle, which is different from the external stimulus, the animal fibre, and the sensorial power, and which regulates their reciprocal actions.

4. This theory is insufficient to account for the phenomena which it is intended to explain; and it is repugnant to facts.

The author supposes that the spirit of animation exists in four distinct states, to which he gives four names, as already mentioned. Now this spirit, as has been repeatedly before stated, is a material substance, and must, of course, be subject to the laws of matter. But is matter, while it retains its nature, susceptible of these radical and essential changes? Its form may be changed; the relation of its particles may vary; but its essential properties must remain the same. Notwithstanding this, the sentient principle, according to Dr. Darwin, is continually undergoing changes of the most radical kind. The spirit of animation in *volition* differs from the spirit of animation in *sensation*, not merely in the position of its particles,

but in its nature. We are elevated with rapture, or writhe in agony; we revolt with horror from an object, or hasten to meet it with joy; we are alternately actuated by hope and fear, desire and aversion, love and hatred, joy and sorrow: in short, there is a diversity almost endless in the modes of our feelings, and in the characters of our ideas. Can all these different and opposite states of mind be accounted for by any supposable changes in one homogeneous fluid? Or is it possible for that fluid to retain its nature, and all its defined attributes, and yet to be continually undergoing this essential change? Assuredly this cannot be the case, consistently with any physical laws with which we are acquainted.

Again; in defining the difference between irritation, sensation, volition, and association, Dr. Darwin resolves it all into the *different portion* of the sensorium in which they originate. Thus, "irritation is an exertion or change of some *extreme* parts of the sensorium; sensation is an exertion or change of the *central* parts;" &c. But the sensorial power resides in every part of the body, and it is every where the same fluid, secreted by the same gland, endued with the same attributes, and susceptible of the same changes; and, of course, mere difference of *place*, if other circumstances be equal, is not sufficient to account for so great a difference as that between irritation and volition; and so of the rest. This is assigning a cause which is not known to exist; and which, if it do exist, is not sufficient to explain the phenomena.

But further defects in this theory appear.—From what organ of sense do we derive our *abstract ideas*? What *fibrous motions* are excited when we call to mind the ideas of wisdom, benevolence, justice, and truth? According to Dr. Darwin these general ideas are repetitions of former particular perceptions, obtained through the organs of sense. But can *general* ideas be mere repetitions of *particular* ones? The simple statement of the doctrine is sufficient for its refutation. The power of abstraction, then, must be given up, or Dr. Darwin's theory must be totally abandoned. Nor can this writer be considered as satisfactorily replying to this objection, by asking, as he does in his

turn, how else do we acquire abstract ideas, if not as he states? Though we may not be able to find any other solution of the question, it does not follow that the one which he offers is adequate to the purpose.

Memory is altogether inexplicable on this theory. This too is said to consist in the repetition of former perceptions. But, according to this definition, the former perception must have been attended with an impression of a previous similar sensation, which involves an absurdity; and as this first contraction of the fibre was occasioned by the action of a certain stimulus, it must be granted by the advocates of this theory that the stimulus might have acted alone, and the idea of memory have been thus produced, without any object of remembrance. Besides, ideas of memory cannot arise from the motion of peculiar fibres, because these ideas belong alike to all our sensations. Nor are fibrous motions even necessary to their immediate production; for the idea of memory is excited as readily by a desire which we have formerly experienced, or by a process of reasoning formerly made out, as by the renewed action of external stimuli. In short, the theory of Dr. Darwin, at most, can only be considered by a candid inquirer as solving the phenomena of one class of ideas, *viz*, those which we receive immediately from our external senses. Even of some of these it furnishes an adequate solution; but all the rest, not only those of memory and abstraction, but also those of imagination, taste, moral perception, &c., are left completely in the dark, after all his fanciful attempts at explanation.

It is also worthy of remark, that one of the leading doctrines of this theory is plainly contradicted by fact. Dr. Darwin teaches that perception is not to be referred, as some have taught, to any common sensorium in the head, but that it takes place in the several organs of sense themselves; that the fibrous motions in these organs constitute our ideas; and that of course, when any organ of sense is totally destroyed, all the ideas connected with it necessarily perish. But is the man who became deaf in adult years incapable of forming any ideas of sound? Were Homer and Milton unable to conceive of

visual objects after they became blind? The noble descriptions with which their poems abound are alone sufficient to refute Dr. Darwin. He is contradicted by the experience of every day.

5. Finally, this theory is unnecessarily complex, and offends against the best rules of philosophic simplicity. Irritation is an exertion of the sensorial power, or of the spirit of animation, exciting the fibres to contraction. By this contraction no end appears to be gained. It is not the fibre which is sentient, but the sensorial power resident in the fibre. The contraction can, therefore, be of use only by communicating a certain effect to the sensorial power. But the sensorial power, according to this theory, was itself affected, previously to the contraction, and was itself the proximate cause of the contraction. Of what use, then, is this combination of effects? It may, indeed, render error more complicated and perplexing; but it cannot assist us in the developement of truth.

Such are some of the numerous defects and errors of this celebrated system of intellectual physiology. The author falls into the grand mistake adopted by all the materialists, *viz.*, a belief that we are acquainted with the nature of causation. In the physical world we see events connected with each other, with respect to time and place; but we know not the relation which they sustain. At most, a series of *facts* is all that we can determine. The links which bind them together, and the nature of the respective processes by which they succeed to each—in a word, the nature of causation we can never understand. We are equally unable to understand the nature of causation in the intellectual world. Dr. Darwin, like a number of ingenious and learned men before him, has attempted to explore this impenetrable region. But in the attempt, instead of enlightening us by the exhibition of facts, he amuses by presenting phantasms of his own creation. To these he ascribes such powers as he thinks suit his purpose; and having drawn out in detail a statement of the actions and variations of these fictitious beings, he would persuade us that the phenomena of mind are *explained*. But let none mistake words for ideas, or creatures

of the fancy for realities. "The affections of the sentient principle are not rendered in the least degree more intelligible by resolving them into motions of solids or fluids; for the cause of motion is as inexplicable as the cause of the sentient affection. If the science of mind were less sure than that of matter, the systems of materialism might have some claim to our respect; but though they were liable to no other objection, the material changes can be known to us only by the changes of mind, and must, of consequence, be liable to all their uncertainty. The theory of Dr. Darwin, therefore, has not made us more acquainted with the mystery of ourselves; and whatever praise it may deserve as ingenious, its principles cannot be adopted as just."

Those who would see a more detailed view of the defects, errors, and gross inconsistencies of the metaphysical theory of this celebrated physician, will do well to consult *Observations on Zoonomia*, by Thomas Brown, esq., Edinburgh, 8vo, 1798; a work which, though it contains perhaps some groundless strictures, manifests great acuteness, learning, taste, and urbanity.

Note (O'), page 213.—The following view of the controversy between the *Nominalists* and *Realists* it is hoped will be intelligible.—The *Realists* supposed that there are certain *substantial forms* or *essences*, corresponding to general terms, and which the mind contemplates in employing such terms. Thus, when the general term *vegetable* is used, they contend that the mind contemplates some *substance* of a very refined nature, or a general *form*, having a positive existence. This substance or form, according to them, does not belong to any particular genus or species of vegetables exclusively, but is a *phantasm*, made up of every thing that is common to different genera or species. It is about this form or general essence that the mind is employed while considering vegetables in the abstract. Both the *Platonists* and the *Aristotelians* were *Realists*, though differing among themselves with regard to some details.

The *Nominalists*, on the other hand, contended that there

are no existences in nature corresponding to general terms, and that the objects of our attention, in all our general speculations, are not *essences*, *forms*, or *ideas*, but *words*. Thus they suppose that, in the instance above selected, the word *vegetable* is the proper object of thought. This word, having been adopted as the representative of certain ideas collected from several genera and species, is used, in a manner, analogous to an algebraic character, which we employ throughout a process, without attending to the quantity which it represents. This was the doctrine of Zeno, of the stoics, of Roscelinus in the eleventh century, and of his successor Abelard.

The *Conceptualists* dissent from both of the above stated opinions. They suppose that words are connected, by common consent, with certain attributes common to a number of genera and species, and abstracted from all peculiarities. By the law of the association of ideas, when the word *vegetable* is pronounced, all these attributes are drawn out of the cabinet of memory, and arranged, by the faculty of *conception*, before the mind. This collection of ideas they suppose to be the object about which the mind is exercised. We lose sight of the *word*, and instantly attend to these *conceptions*.

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